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Final Report

AIDS Community Evaluation Project

Contract No. 27 l-87-8213

September 29, 1990

prepared by

NOVA Research Company

Preface and Acknowledgements

This final report for Contract **#271-87-8213** is a chronological account of NOVA Research Company's efforts and accomplishments as the National Data Coordination and Evaluation **(NDC&E)** contractor far five National AIDS Demonstration Research (NADR) grantees. The role of the **NDC&E** contractor is to develop and maintain a data coordination center, to provide.technical, logistical, and publication assistance, and to assist **NIDA** in coordinating research activities for the five NADR grantees. The five grants were awarded to investigators in Chicago, Miami, New York, San Francisco, and Philadelphia. The grantees role was to test various intervention protocols (a standard and an enhanced) in community settings and compare the efficacy of the standard versus the enhanced interventions in reaching intravenous drug users and their sexual partners not in treatment and promoting positive behavior changes related to reducing HIV injection risk.

This report consists of six sections, each of which is summarized below:

Introduction-Background of the National AIDS Demonstration Research (NADR) Project and NOVA Research Company's role as the **NDC&E** contractor.

Year l-Start-up activities, AIDS Initial Assessment (ALA) preparation, data entry software programming, and technical assistance to the grantee sites.

Year **2—Continuation** of technical assistance, data collection, information dissemination, and the establishment of the NADR Resource Center on AIDS (RCA).

Year **3—Data** collection, data analysis, First Annual NADR National Meeting, and publication of NADR newsletter, ***Network.***

Conclusion-Summary of NOVA's accomplishments as the **NDC&E** contractor.

Appendixes-Commonly Used Acronyms, Regional Research Groups, and List of Deliverables.

NOVA Research Company would like to acknowledge the efforts of the many persons who contributed to making the NADR Project a success, both inside and outside NOVA. At **NIDA,** special thanks must go to:

Mr. George Beschner, who conceived the NADR Project and provided expert **guidance** in its initiation and implementation. To this contract, he **provided** invaluable insight into the research support needs of the grantees and direction of how NOVA could most effectively support NTDA and the responsible Project Officers.

Mr. Erwin Bloom, NIDA Project Officer, who was an excellent technical and administrative resource in identifying service support priorities, translating concepts into specific tasks, and reviewing all information and documentation developed by NOVA with an expert eye for both substance and form.

Ms. Gloria Weissman, who provided expert consultation into the many varied issues associated with dealing with the sexual partners of IVDUs.

At NOVA, special thanks must go to:

Dr. Barbara Sowdcr, who provided invaluable content expertise in many facets of the Project including effective interactions with the grantees, design, testing and OMB Clearance of the questionnaires, content of and review of most documents produced under the contract, presentations at NIDA briefings, preparation of articles for the first issues of Network, and many other contributions that contributed significantly to both the success of the NADR Project and NOVA's successful support effort.

Ms. Peggy Young, who provided expert advice on daily operations, outstanding quality control of every deliverable produced under the contract, backup operational support to the Project Director, and unending encouragement to the grantees, project staff, and others affiliated with the NADR Project of the successes that were being achieved.

Finally, a special thanks to all the other NIDA staff who provided insight into the needs of their respective grantees, to all the NOVA Research staff who worked consistently to ensure the success of the contract and the NADR Project and who put in the extra effort whenever called upon, and to the many NOVA consultants who provided expert advice and technical assistance.

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Introduction

The first section of this Report provides a brief background of the National AIDS Demonstration Research (NADR) Project, and an overview of NOVA's role as the National Data Coordination and Evaluation (NDC&E) contractor.

Background

During the 1980s, the drug abuse milieu was changing dramatically both in terms of drug abuse patterns and the extent of diseases spread among drug abusing populations. With the emergence of the human immunodeficiency virus (HIV) and its associated spread through sharing intravenous drug paraphernalia and unprotected sexual practices, NIDA was quick to reorient some of its strategies toward slowing the spread of HIV infection. In 1987, NIDA's research role in preventing drug abuse was combined with a new research goal-to reduce the spread of HIV infections. These two goals were combined and directed to the large numbers of intravenous drug users not in drug treatment through a research demonstration project that became known as the National AIDS Demonstration Research (NADR) Project. The NADR Project was initiated to test and evaluate different models and interventions to reduce the practices that carry a high risk for spreading and contracting HIV among intravenous drug users (IVDUs) and their sexual partners, not in active drug abuse treatment. Similar projects were already underway in treatment settings.

The NADR Project

The NADR Project grants tested a standard versus an enhanced intervention at outreach sites within a single community. To be eligible for the program, a person must (1) have used illegal drugs intravenously in the past six months and had formal drug treatment in the 30 days prior to entering the program, or (2) be a sexual partner of an active intravenous drug user at some time during the last six months, who had not used drugs intravenously themselves during the last six months. Community outreach, performed by indigenous outreach workers, was a key component of the NADR programs. Those individuals, in one of the NADR-targeted populations, were contacted by trained indigenous outreach workers on the streets in areas of known drug trafficking and drug abuse.

A standardized core information set was collected by all program sites. These efforts cumulatively amassed data on both intravenous drug users not in treatment and the sexual partners of IVDUs; groups that have proved particularly elusive to earlier outreach and intervention efforts. Basic demographic data on persons contacted on the streets, who were both eligible and ineligible, were collected on a Contact/Screener Form by indigenous outreach workers in the community. Further detailed information concerning demographic characteristics, sexual and drug use practices, needle-use practices, general health and welfare, and AIDS knowledge of eligible persons recruited into the program were collected through the AIDS Initial Assessment (AIA) questionnaire in either English or Spanish. NOVA Research supplied each program with an Interviewer/Supervisor Training Manual

and Interviewer/Supervisor training to ensure that data were collected in the same standardized manner across all program sites. In addition to demographic, sexual, and drug-use/needle-use practices, the questionnaire also established the participant's knowledge at the time of the AIA interview concerning HIV transmission factors. After completing the questionnaire, each participant was provided the opportunity to take the HIV antibody test and receive pre- and post-test counseling. The HIV-test result data were linked to the AIA through a unique respondent identification number.

Outreach workers working in the community maintained contact with program participants to facilitate a six-month follow-up interview. Between initial intake and the follow-up interview, program staff provided a randomly assigned standard or enhanced intervention involving education, skills training, empowerment, referrals, and individual and small group support services. Approximately six months after administration of the AIA, the AIDS Follow-up Assessment (AFA) questionnaire was administered, in either English or Spanish. When linked in computer files to the AIA, the AFA identified self-reported changes in knowledge and behavior related to needle sharing, drug use, and sexual practices.

Once data were collected (through the Contact Form, AIA, AFA, and HIV screening) they were keyed into IBM-compatible computers by grantee staff. The software for data entry was NOVA-programmed custom overlay software distributed to all grantees, along with data entry users instructions. The keyed and verified data were sent to NOVA on floppy disk in an ASCII format. NOVA technical staff implemented a data quality control process designed by NOVA's biostatistician to ensure a 98% level of accuracy of data coded and keyed from the respective data collection instruments. The data were then uploaded to the Parklawn Computer Center (PCC), the mainframe system used for storing and analyzing the aggregated national master database at NIDA headquarters in Rockville, Maryland. NOVA staff also performed statistical analyses and generated monthly, quarterly, and ad hoc reports using SAS computer programs.

Role of NOVA Research Company in Data Coordination and Evaluation

NIDA awarded the NDC&E contract to NOVA Research Company on September 30, 1987, to support the first five NADR grantees. The role of the NDC&E contractor was to develop and maintain a data coordinating center and provide technical, logistical, and publication assistance. The key areas NOVA was responsible for and a general description of work performed in those areas are listed below.

Data Entry (DE)

NOVA was responsible for designing and distributing the data entry programs for collection of AIA and AFA questionnaire data. To facilitate data entry, NOVA designed its programs to create an interactive, screen-oriented display.

Data Quality Control (QC)

The first level of data quality control occurred at the sites, with the standard data entry program performing many checks on the data. The second level of quality control was performed by NOVA's data management staff. For each batch of data sent to NOVA for inclusion in the national master database, a 15% random sample of questionnaires was requested in hard copy from the site. This sample was recoded and key entered and compared by NOVA's data entry staff to the original data received. A special compare program was developed by NOVA's programming staff to identify differences. If the level of site data-entered errors on this random quality control review was greater than 2%, the entire batch was returned to the site for total batch recoding, rekeying, and reverification.

Data Analysis

The first step in the data analysis process was to generate frequency distributions for each variable. These frequency distributions were returned to each site for verification against locally prepared analyses. NOVA Research provided ad hoc analyses of national data upon request from NIDA staff and NADR program principal investigators.

With the growth of the database, statistical analyses for outcome evaluations were performed, including regressions, bivariates, and chi-squares. NOVA programmed the analyses in SAS for the individual grantee files as well as the national master files. NOVA then provided a SAS analysis program library listing to all programs.

Monthly Data Reports

NOVA generated two types of monthly data reports: Standard Administrative Reports and National Coordinating Center Reports.

The Standard Administrative Reports listed the number of AIA/AFA interviews and HIV test results received for the month from each program and cumulative to date, along with breakdowns by several characteristics (i.e., sex, race, target population). The National Coordination Center Reports consisted of administrative and analytical data pertinent only to the NIDA Project Officers on their respective grantees.

Quarterly Analytical Reports

On a quarterly basis, the national database was used to produce a variety of national descriptive and analytical reports to NIDA and to all program Principal Investigators.

The descriptive tables segregated program interviewees by age, gender, race, target group, and similar characteristics. They also described current work situation, level of education, assessment of health, and level of prior HIV testing.

Analytical tables examined, by race and gender, daily use of injected drugs, location of drug use, persons with whom the interviewee injected drugs, frequency of using new/clean needles, needle cleaning methods, and similar drug use/needle use-related characteristics. Similar tables for sexual practices also were prepared.

Parklawn Computer Center (PCC)

The master national database for all data collected by the NADR programs was maintained in a SAS database structure on the PCC's IBM mainframe in Rockville, Maryland. Data received by NOVA were uploaded every two weeks to the PCC system. Sites could request that NOVA prepare single, own site-specific data for analyses on a local level. The FCC database was the source for the regularly produced monthly administrative and quarterly analytical reports.

Meeting Planning and Support

Meetings between NIDA and program Principal Investigators, Co-Principal Investigators, Research Directors, Interviewer Supervisors, and Outreach Supervisors concerning research interventions, procedural issues, and other program operation activities facilitated the transfer of information and ideas. NOVA was responsible for many of the activities related to the planning, logistics, and follow-up of these meetings. Regional program meetings of grantees and technical review meetings focusing on specific research functional issues were conducted. A national conference for all NADR programs, grantees, and contractors, was held during the second contract year.

Publications and Information Dissemination

As the NDC&E Contractor, it was NOVA's role to inform the NADR constituency of Project events and findings. Toward this goal, NOVA developed a quarterly informative Project publication, ***Network,*** and a bibliography of grantee publications from the NADR Project, ***Research Findings.***

Network

The NADR newsletter ***Network was*** disseminated to all Project staff four times per year. ***Network was*** written to appeal to a large and diverse audience. This format allowed NOVA staff the freedom to write for the investigator, administrator, direct service staff, and the casual reader. The newsletter contained scientific articles, stories on program personnel, announcements, and other items of interest to those working in the HIV/AIDS arena. This publication was circulated to all persons on the NADR program staff.

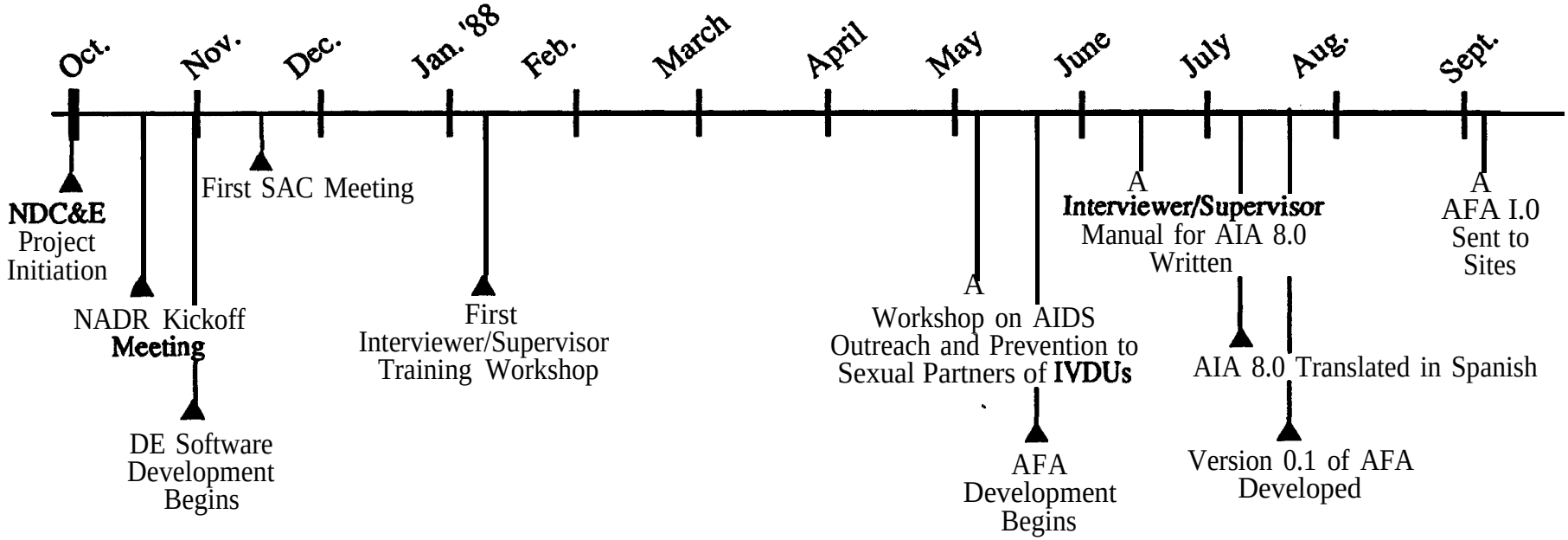
Research Findings

This monthly publication is a listing of articles written by NADR programs and published in peer-reviewed scientific literature. It was sent to all Project sites at the end of every month.

Project Expansion

At the end of Year 1 of this contract, NOVA Research was awarded a second competitive contract to support an additional set of grantees (24 new grants awarded between January and September 1989) and 12 AIDS Targeted Outreach Model (ATOM) research contracts. All 29 grants and 12 contracts were a part of the NADR Project. Thus, some of the activities described in the nmainder of this Report may refer to support activities for the expanded NADR Project, which included continuing support to the first five grants encompassed by this contract. In many instances the activities were inseparable to supporting the full Project objectives.

Year 1 Major Activities



Year l-September 30, 1987September 29, 1988

Introduction

NIDA awarded the NDC&E contract to NOVA on September 30, 1987 to support five grantees in Miami, Philadelphia, Chicago, New York, and San Francisco. In the first months of the contract, NOVA's efforts were directed at coordination with NIDA and the five grant programs, developing a publication policy, helping develop research and process evaluation plans, assisting in developing the AIA, AFA, and Contact/Screener Form data collection instruments, designing a data management plan and system design, developing data entry software and users manuals, and initiating technical assistance to the grantees. Later in the year, NOVA developed and field-tested a version of the AIA, completed data entry software, translated the AIA into Spanish, prepared documentation for coding the AIA, finalized an Interviewer/Supervisor Manual and Data Entry Procedures Manual, conducted interviewer training, began analysis of national data, and held numerous meetings with NIDA and NADR grant program personnel.

Project Management and Administration

Grant Application Review

To gain a better understanding of the grantee programs, NOVA staff conducted a detailed review of the grant applications to document methods associated with outreach and intervention. Since these documents contained only general descriptions of the planned projects, NIDA sent a letter requesting additional details about both the methods of outreach and the planned interventions. NOVA staff assisted NIDA in preparing the memoranda and developing a subsequent summary to be used in the NADR Research Plan documentation.

Senior Advisory Committee (SAC) Meetings

NADR Kickoff Meeting

The NADR Kickoff Meeting was organized by NOVA's staff and held in Bethesda, Maryland on October 16, 1987. During the Thursday morning session, each grantee described their existing or planned community outreach programs. Data collection plans were discussed in the afternoon session. It was noted that differences among cities and sites need to be taken into account in the national analysis and process evaluation planning.

The AIA and AFA questionnaires were discussed. Covariates to be included in the AIA were identified, as were a number of problems with some AIA questions. There was a general consensus that reasonable study design standardization was necessary. It was agreed that a pretest version of the national standard questionnaire was needed after incorporating suggested changes. HIV testing plans also were discussed.

A discussion of computer and data management issues was held, and a preliminary list of equipment and software used by the grantee projects was handed out at the meeting. The PCC mainframe was selected to maintain the national database and to perform the various statistical analyses that will regularly be requested by NIDA and the grantees. It was agreed that the national database would be updated on a two-week cycle, with pre-established specific cutoff dates for each update.

Philadelphia SAC Meeting

The first NADR Senior Advisory Committee meeting was held in Philadelphia, Pennsylvania November 17, 1987. NOVA assisted the Philadelphia grantee with logistical arrangements and worked closely with NIDA staff in planning the meeting agenda. Research design issues were discussed, and it was decided that process/outcome evaluation plans must be developed and documented for each individual city and cooperatively among all cities.

Client eligibility was also discussed. It was noted that while everyone over 18 was eligible for both intervention and the first wave of NADR data collection processes, care must be taken to collect sufficient data from primary study target populations to allow analytical classification of each group, with primary focus and emphasis on clients in the following three categories:

- IV drug users not enrolled in formal drug treatment program during last 30 days
- IV drug users' sexual partners during last six months (no IV drug use by sexual partner in last six months)
- Prostitutes.

Client follow-up issues were discussed. Taking into account past experience of the grantees with follow-up interviews, it was recommended that there should be at least three follow-up interviews performed at 6-month intervals where the first is to be done at 6 months, the second at 1 year (up to 1 month early and up to 3 months late), and the third at 18 months. It was later agreed that a standard AIA/AFA training manual and a "national" interviewer training workshop should be developed by NOVA.

Each grantee was requested to prepare and send descriptions of their HIV testing protocols to NOVA.

As the National Data Coordination and Evaluation Contractor, it was decided that NOVA would

- Provide grantees with data entry and editing programs for the following documents - Contact Sheet, AIA, AFA, and HIV test results
- Generate standard operational reports for grantees

- Generate, upon request, a tape copy of individual grantee database(s) for analysis.

Publication Decision Process

It was generally felt that each grantee had complete rights to their own data, had limited rights to the national aggregate database, and had a right to negotiate an agreement with another grantee for joint use of data

NOVA prepared minutes and action items of each meeting. These were reviewed with the NIDA Project Officer, revisions incorporated, and then distributed to each grantee program Principal Investigator.

Draft NIDA/Grantee Publication Policy and Plan

In November, 1987, NOVA staff began development of a NADR Project Publication Plan. The policies set forth in this document applied to anyone associated with the NADR Project, including NIDA staff, NADR grantee staff, and NDC&E contractor staff. The policies governed the fair and equitable use of data collection under the NADR effort and the authorship guidelines for publication of that data.

The grantee Principal Investigators were asked for input to the plan. The draft Publications Policy and Plan was then prepared by NOVA and submitted to NIDA for review and final revisions. In March, 1988, Paul Young, NOVA Principal Investigator, met with Erwin Bloom, then NIDA Project Officer, and Dr. Robert Battjes, NIDA, to review NIDA's suggested revisions. A second draft was then prepared by NOVA. This was submitted in late March to NIDA for final review and approval.

The NIDA/Grantee Publication Policy and Plan stated that all core research data collected by NIDA grantees in conducting the NADR Project will be forwarded to NOVA, the NDC&E Contractor, for program and project-level aggregations, summarizations, and analyses. These core data are the property of NIDA and the NADR Project.

Research Overview

A NADR Research Project Overview was prepared by NOVA. This overview briefly described the project, its goals, target populations, and methodologies. The overview covered the project from participant recruitment to analysis of the collected data and included hard copy, transparencies, and slides. This presentation was prepared for use by NIDA staff as a way of explaining the Project at meetings, briefmgs, and other NIDA and non-NIDA events.

Evaluation

NOVA also prepared a detailed Process Evaluation Plan. The plan covered the evaluation goals and objectives, levels of evaluation, evaluation questions, evaluation methods, evaluation site visits, and data analysis. Four major goals were listed:

1. To describe salient characteristics of the target population.
2. To describe methods and procedures used by the local grantees in their interventions.
3. To assess the intermediate impact of the interventions.
4. To assess the outcome of the intervention.

The plan also described four levels of evaluation to be used: process, impact, outcome, and in-depth. This plan, completed in May 1988, was presented to the Senior Advisory Committee for discussion. Subsequently, Mr. Beschner (NIDA) decided that the programs were not ready for site visit evaluations and this component was altered to one that made the programs responsible for doing their own evaluation. To assist the programs in preparing their self-evaluations, NOVA established a detailed evaluation form that was sent to each site.

Monthly Progress Reports

Each month NOVA prepared and submitted a monthly progress report to the NIDA Project Officer. The monthly progress report described NOVA's progress and accomplishments, goals and the work done to achieve each of the goals. It also described deliverables, problems and their solutions, and projected goals for the upcoming month.

Quarterly Briefings

NOVA conducted briefings for NIDA personnel four times per year. In the first year, NOVA made formal and informal presentations to NIDA personnel to relate progress on the project and areas of concern.

Questionnaire Development

For the NADR Project, NOVA helped design three data collection instruments: the AIDS Initial Assessment, the AIDS Follow-up Assessment, and the Contact/Screener Form. Each instrument, in collaboration with NIDA and the NADR grantees, was carefully constructed to obtain the necessary and essential information relating to the research goals and objectives of the NADR Project. Subsequently, each of these instruments was translated into Spanish for use with Spanish-speaking respondents in the United States and Puerto Rico.

AIA Development

The first version of the AIDS Initial Assessment questionnaire was developed by a panel of experts commissioned by NIDA during the Summer of 1987. That first version was cleared and approved by Office of Management and Budget (OMB) in September. 1987. Approvals were later obtained for revisions to this version.

The NADR grant programs agreed to use and field test the OMB-approved AIA for a limited time. Approximately ten revisions of the AIA occurred during its development. Three distinct versions (6, 7.2, and 8) were used for 500 or more interviews. Despite differences, each version contained generally similar items to gather baseline information to answer the major research questions, including demographic characteristics, knowledge about AIDS and transmission of the disease, drug-use behaviors, needle-use behaviors, drug treatment history, sexual-risk behaviors, mobility patterns (and needle-use and sexual-practice risk behaviors involved in mobility), health-risk status/history, and HIV-test status/history.

Bethesda SAC Meeting

A SAC meeting was held May 12-13, 1987, in Bethesda, Maryland to primarily address revisions to the AIA and its subsequent data analyses. At the beginning of the meeting, each grantee Principal Investigator summarized his or her program's progress to date in using the AIA, as well as generally in implementing their program activities.

The first formal presentation, given by NOVA, concerned the AIA instrument revisions. Changes to the AIA in going from version 6.0 to 7.2 were explained. Various aspects of preliminary data analysis were presented using graphs and charts. After considerable discussion of the AIA and the data, representatives from each program agreed to send to NOVA, within one week, a list of questions that they would like to delete from the current version of the questionnaire (Version 7.2). If all programs agreed on a question, it would be deleted in an effort to shorten the questionnaire.

Another issue addressed was sexual practices frequency coding. It was suggested that the response card for the sexual practices questions be changed from Card B to Card A. This change was made to better determine the respondents' sexual activity frequency and eliminate some confusion on the part of the respondents. NOVA developed a standard procedure for facilitating future changes to the AIA. This procedure included coordination with Dr. Battjes, the NIDA epidemiology group, and other NIDA groups conducting related research.

It was decided that NOVA would prepare two AIA data frequency reports per month reporting update data for the first two weeks and for the second two weeks of each month. NOVA would also generate administrative monthly reports and quarterly analytical reports.

The AFA design was a major topic of discussion. Participants requested that the following issues be addressed in the AFA: 1) What did clients do with the information they received? 2) What practices did clients attempt to change? What were their success rates? Why? 3) Is there a way to measure breakup of relationships due to HIV testing? 4) Are there changes in partner status and serostatus (e.g., do couples have the same serostatus?), and 5) What other interventions are clients involved in? The group agreed to form one committee to design the research questions for the AFA and another committee to write the AFA. NOVA was to coordinate and facilitate these meetings.

The need for HIV testing was discussed, as was the need for testing the rate of cognitive deficit to determine the validity of client responses to questions in light of recent findings concerning AIDS-related dementia. Other related issues discussed were the legal consequences of testing and the use of a single national clinical laboratory for programs desiring a blind study of HIV testing.

NOVA outlined some procedures for AIA questionnaire reliability testing. Under the proposed procedure, each site would ask randomly selected interviewees (10-20%) a predefined set of AIA questions a second time. It was decided that reliability testing would be performed by a few sites and not by all programs.

It was recommended that a national standard data set be defined for the client contact information. Each program it was decided, would be allowed to design and implement its own procedure to collect and report information.

Other topics discussed at the meeting were NIDA's communication campaign, follow-up procedures, and evaluation plans.

The major purposes of the various AIA versions were (1) to improve the clarity of specific items; (2) to ensure comparability of items and/or response categories where comparability was needed for data analysis; (3) to enhance reliability, sensitivity, and specificity of the instrument; (4) to improve ease of administering the interview; (5) to increase efficiency of coding and data processing; (6) to reduce the potential for errors in coding and data processing; and (7) to ensure that the instrument would answer major research questions.

The AIA contains several supplementary sections. One is a "locator form" that contains a 'minimal set" of information on a respondent for later use in follow-up. Programs have typically added items to this core instrument to improve their follow-up capabilities. Other section forms provide space for interviewer notes on perceived "reliability" of different sections of the AIA and for recording of interviewer characteristics and time required to complete the interview. There is also an answer sheet for knowledge questions about AIDS asked of interviewees. Programs used the sheet for educational purposes and/or for building further rapport with participants. NOVA assisted in developing these materials and defined a minimum set of data needed for a separate form, the "contact screener form," used by outreach workers to determine whether individuals

they reached were eligible for program participation and to record demographic characteristics of all contacts.

AFA Development

Work on the AIDS Follow-up Assessment questionnaire began in May 1988. The work group was a collaborative effort involving NIDA, NOVA, and NADR Project Principal Investigators and key personnel of four of the first NADR programs and two of the NADR programs funded in December, 1987. Items on the AFA are, in large measure, based on the final Version 8 of the AIA. The time interval was specified to be the same as in the AIA (e.g., *'During the past six months, . ..?"). These* equivalent time periods provided the capability far behavioral change analyses that would be consistent between initial intake and follow-up, thereby eliminating the need for lots of conversion tables. A section was also added to obtain participants' assessment of program interventions. A one-week field test was conducted by NADR programs in Miami, Philadelphia, and San Francisco. The process continued through the fall of 1988, when the AFA Clearance Package was submitted to OMB for approval.

Software Development and Data Management

In collaboration with the NADR programs and NIDA, NOVA developed the computerized systems needed to control the flow of data from the sites to the master national database. The NOVA Data Management System utilized both microcomputers and mainframe computers. In 1988, when it became evident that a substantially greater number of grantees and contractors were to be involved in the NADR Project, it was also evident that the data requirements would need to be changed dramatically from what originally was proposed in order to accommodate a much larger master national database and the flow of data from many more grantees. This change forced consideration of maintaining the national database on a large mainframe computer with extensive storage and processing capability. Therefore, a Federal mainframe solution was proposed in order to ensure cost control and efficiency. After analysis of both the NIH DCRT Computer Facility and the Parklawn Computer Center (PCC), the PCC was chosen for use on this project.

System Design and Programming

To control the flow of data, NOVA designed a system to transfer data from the questionnaire to the PCC master database in a stepwise manner. After questionnaires were completed and coded, they were entered via SPSS DE (Data Entry module) II onto a floppy disk. The SPSS program data were converted to an ASCII file that was then uploaded to the PCC mainframe, where NOVA ran all appropriate basic statistical analyses on the data using SAS.

Data Entry

During November 1987, a number of microcomputer-based software programs for field data entry were reviewed. DBASE III Plus, ORACLE, and Turbo Pascal were all

considered before SPSS DE II was chosen as the most suitable program for this project. The programming of the SPSS DE II master files was a cooperative effort between the sites and NOVA, with the sites providing feedback to NOVA for enhancement of the data entry Program.

In February 1988, a data dictionary for AIA, Version 6 was drafted. It defined all variable names, lengths, and data cleaning rules for the AIA. During March, NOVA. enhanced and modified the SPSS DE II data entry screens and edits to provide clearer screen information and cleaner data. A copy of the SPSS DE II software was sent to Miami and Chicago for field pretesting. After revisions based on suggestions from the pretest, the SPSS DE II master files containing the data entry screens, ASCII templates, edits developed by NOVA, and the revised *Data Entry Procedures Manual were* distributed to each of the programs.

SAS

SAS was chosen as the mainframe language most suited to the needs of the project, i.e., to perform preliminary edits and generate prototype statistical reports. In December, 1987, NOVA developed a prototype SAS report that produced frequency tables for each defined variable. The prototype report was modified to accommodate continuing changes in the AIA. Data edits were coded for AIA, Version 6 on the mainframe and a communications link was developed for transferring to the mainframe the data files created by SPSS DE II.

Quality Control

Following quality control and screening, questionnaire data transmitted from program sites were prepared for entry into the national database. They were first converted, by NOVA, from SPSS to an ASCII file and then backed up to a Bernoulli cartridge by questionnaire version, site ID, and batch number. The ASCII file was subsequently uploaded to the PCC mainframe.

Before each case was stored in the national database, computer programs were run to check the integrity of the data and the consistency of the case record. One check with the AIA was designed to avoid duplicate key values so problems would not arise when these data were linked with AFA and HIV test results. Another series of checks looked for missing sections of the questionnaire and/or inappropriately identified sections (i.e., a section from one interview that had been merged inadvertently with a section of another interview at the program site). Variations in key values were checked by verification of respondent ID numbers that were recorded in each of the nine source files.

Technical Assistance

NOVA provided training to programs to ensure that questions on the AIA and AFA are asked in standard ways to ensure comparability of data. Training during the first

contract year was provided through 1) national workshops, 2) training manuals, and 3) technical assistance in training. All training focused on the AIA.

Interview Supervisor Training Workshops

First NADR Interviewer Supervisor Training Workshop

The first workshop for Interviewer Supervisors was convened in Bethesda, Maryland on January 12, 13, and 14, 1988. Representatives of the target population were recruited who agreed to be interviewed by program Supervisors and to have the interviews observed by the group through a one-way mirror. The interviews were videotaped and the tapes were forwarded to programs for use in training their interviewing staff.

In this workshop, Supervisors of the first six NADR programs were given the opportunity to read, review, and discuss the AIA (then Version 5) and, after conducting live target population interviews themselves, discussed needed changes in the instrument. Each Supervisor conducted an interview, as, others observed through the one-way mirror and subsequently, provided feedback on the interview.

Second NADR Interview Supervisors' Workshop

The second NADR Interviewer Supervisors' Workshop was conducted April 19-21, 1988. The purpose of this workshop was to review the AIA, Version 7.0 questionnaire with the ***Interviewer Supervisors*** and to get their feedback as to its form and content. To make sure that the entire questionnaire would be covered, the group was divided into small groups to consider separate sections of the questionnaire. There were three groups, each with a NOVA facilitator. Sections were discussed in small breakout groups, which then reported back to the full group for final recommendations and discussion. NOVA staff participated in all aspects of the discussions. NOVA processed each day's AIA revisions that evening and provided clean, new AIA copy the next day. By the end of the third day, a new AIA, Version 7.1, was complete. At the suggestion of George Beschner, then the NIDA Community Research Branch Chief, participants were asked to test the new instrument for one week. Several Interviewer Supervisor participants from the April workshop met on Tuesday, May 3, 1988, at NOVA to consider the pretest results and finalize the AIA 7.1 for presentation to the grantee Principal Investigators.

AIA Interviewer/Supervisor Manual

In December 1987, NOVA completed the first draft of the NADR ***Interviewer/Supervisor Manual.*** It was revised in January 1988 in accordance with suggestions made at the Interviewer Supervisors' workshop. After the first three months of data collection, further revisions were made. The manual was designed to aid Interviewer Supervisors and Interviewers in consistently administering the AIA. The manual contains background information and directions for those conducting interviews. Its purpose is to familiarize personnel with the program, the AIA questions, and specific

terms used in the AIA, and also to be used as a ready-reference manual. The manual is organized as follows:

Chapter One-provides an overview of the project, including the methodological approaches being used by each of the participating programs.

Chapter Two-describes the populations to be interviewed and the importance of reaching these populations.

Chapter Three-presents general rules for conducting interviews.

Chapter Four-gives a detailed discussion of each item on the questionnaire.

Chapter Five–Presents a glossary of terms used in the manual and throughout the Project.

Appendixes-lists responsibilities of the Interviewer Supervisors and the coding scheme for selected codes to be completed by the Interviewer Supervisor.

NADR Working Group Committee Meeting

On July 8-9, 1988, the Research Design Working Croup met in Miami to discuss the design of the AIDS Follow-up Assessment (AFA). The two major issues were:

- What do the projects have in common?
- What analyses will be conducted with the national data?

To determine commonality among programs, it was suggested that a number of criteria be considered across all programs. These criteria were admission requirements, interventions, testing, and follow-up.

Admission requirements were reiterated, and ensuing discussions covered the following issues:

- Locator/Screener Form: How does each project use it? At what point does someone get screened? What is the definition of "contact"?
- HIV Testing: How will HIV test results be reported, and how will programs ensure subject confidentiality?
- AFA: How many follow-up interviews are to be conducted at each program? How should follow-up subjects be selected? How will this affect budgets?
- Level of Analysis: Will the unit of analysis be communities or individuals? What variables will be used? What groups should be

represented across the nation? What variables can be combined and presented nationally?

Each program summarized its intervention strategies by explaining its target populations, approach, and intervention.

The purpose of the AFA follow-up questionnaire is to determine if the target population has made a change in high-risk behaviors. At the national level, the AFA analysis will:

- Determine if behavioral change has occurred among target populations
- Determine whether behavioral changes are different from city to city or with respect to other program components
- Conduct various types of descriptive analysis comparisons among cities, similar interventions, and other characteristics still being defined.

AFA outcome and process variables were identified for both local and national analyses. A schedule was developed for the completion of the AFA.

Assisting in Instrumentation and Training

In Year 1, training staff began to provide on-site training in AIA administration. During the first contract year, NOVA provided four one-day on-site technical assistance training sessions to Interviewers and Interview Supervisors. Other sites were provided outlines for training their Interviewers. Frequent technical assistance in AIA administration, AIA coding, and data entry training was provided via telephone to all NADR programs, at times on a daily basis.

Technical Assistance Related to HIV Testing

Much of the technical assistance to programs in HIV testing was provided directly through NIDA. NOVA assisted in the following ways:

- Prepared correspondence detailing the HIV testing protocol and HIV test data to be collected and reported; and
- Prepared HIV test results data entry program and associated user documentation.

Resource Sharing

The expansion of the NADR Project in October 1988 augmented the need for developing a means for information and resource sharing among the sites. NOVA's Health Education Group and other staff members were involved in meeting project information needs in a number of ways.

A key program resource-the ***Program Orientation Book-was started in Year*** 1. The ***Orientation Book*** is a comprehensive manual that contains explanations of each component activity of the NADR Project and provides samples of all essential program instruments. Included in the 14-part document are a description of the background of the NADR Project; lists of all grantees and contractors; the AIA (in both English and Spanish), the AFA, and supplementary material; information about data entry and screening, and, other materials.

NOVA also directed effort to establishing an in-house collection of professional literature, training materials, and patient-education materials for use by NIDA, NOVA, and program staff and clients.

Data Analysis

After completing range, consistency, and interfield edit checks, the AIA, AFA, and HIV test results data were loaded onto and stored in the SAS national master file at the PCC. The SAS master file was used to generate descriptive and inferential statistics for NOVA reports required by NIDA, including monthly administrative and national-level quarterly analytical reports. Local programs also could request aggregate data sets of their own data batches from the national database to produce local statistics. Upon approval of the Project Officer, the national database could also be accessed by NOVA to answer special data requests from NIDA, participating programs, and other interested agencies or organizations.

During the first contract year, the SAS master file was used primarily to conduct descriptive analyses (e.g., cross-tabulations, frequencies, averages) and chi-square analyses on AIA data. Specific computer analysis programs were developed by NOVA to make most data comparable across the different versions of the AIA (Versions 6, 7.2, and 8). By the end of the first contract year, all NADR grantees were using Version 8 of the AIA, thus simplifying the data upload and analysis.

By the end of Year 1, each NADR program was maintaining its own system and was also transmitting data via floppy disk to the NDC&E Center, using the data entry software and procedures developed collaboratively with NOVA. The NDC&E mainframe AIA database was maintained in the PCC and operated under the auspices of the Federal Government. Through cooperative arrangements established by NIDA, the PCC stored the national database and provided the maintenance and analytical software capabilities needed by NOVA to perform the various statistical analyses requested by NIDA and NADR programs.

Other Year-l Activities

Support for Sexual Partner Component of NADR Grantee Programs

On May 2-3, 1988, NIDA held a Workshop on AIDS Outreach and Prevention to Sexual Partners of IVDUs. The workshop brought together leaders in AIDS outreach and intervention from around the country to discuss the unique problems facing women who are sexual partners of drug users but who are not, themselves, IVDUs. Participants discussed the problems in reaching and changing risk behaviors in this population, shared ideas, experiences, problems, and successes, and identified areas where NIDA and its NDC&E contractor could be helpful in providing materials, training, technical assistance, and other resources. The workshop took the form of discussion sessions, each dealing with a specific component of sexual partner outreach and intervention.

Risk Factors. The first session centered on identifying major risk factors confronting women in this population. Major risk factors identified were: dependency on partners, low self-esteem, negative image of condoms, live-for-today lifestyle, drug/alcohol use, alternative risky sex practices (e.g., anal sex) to protect virginity, and fear of deportation. Participants concluded that a holistic approach is necessary in dealing with these risk factors, and one that takes into account a person's social, sexual, behavioral, religious, familial, and intellectual status.

Outreach. The second session concerned methods for reaching female partners of IVDUs. The NADR grantees use a number of different approaches to contact these women. These include: a team concept in emergency rooms; use of ex-addict outreach workers representative of all sexual orientations and ethnic groups; mobile van units with a trained counselor and physician who offers free upper-body health screenings; and, deployment of health teams into neighborhoods where prostitutes live and work.

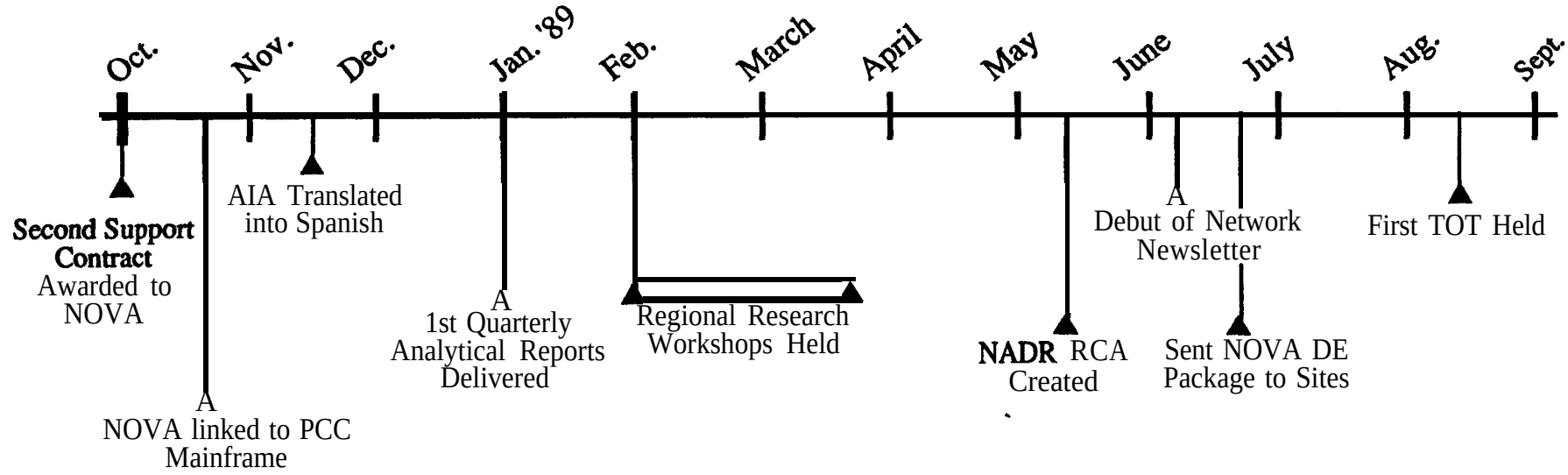
Prevention Education. The next session was a discussion of prevention education techniques and audiences to be reached. Advertising techniques, a two-minute video, and radio public service announcements were reviewed. Intervention strategies, HIV testing, the locator form, outreach worker training and support, and technical assistance were also discussed at the workshop. A summary report, entitled ***Summary Minutes of the Workshop on AIDS Outreach and Prevention to Sexual Partners of IVDAs, May 2-3, 1988*** was prepared and disseminated to all workshop attendees in June 1988.

Summary-Year 1

During the first critical year of this contract, NOVA accomplished a great deal and established a framework for successful completion of the contract. The AIA and AFA were developed as was a data management system for transferring the data from the questionnaires to the mainframe computer. Working relationships were established with all the Principal Investigators and their staff. Technical assistance was provided to the sites in the form of procedural documentation, trainings, and manuals. All these activities were

undertaken to ensure that contract years two and three would be successful and accomplish the goals of the NADR **Project.**

Year 2 Major Activities



Year 2September 30, 1988-September 29, 1989

Introduction

On September 30, 1988, the beginning of Contract Year 2, NOVA Research Company was also awarded the second NDC&E contract to provide similar research support far 24 additional grants and 12 ATOM contracts awarded by NIDA in fiscal year 1987 and fiscal year 1988. The addition of these new programs changed the scope of the Project and concomitantly changed the delivery of services to the original five grants. Data management and analysis requirements grew immensely and, in turn, NOVA upgraded its data management plan to handle efficiently the extra work. New staff members were hired to assist with the increased workload and facilitate and expedite the delivery of service to all the grants and contracts. The division of services between the original five grants and the new grants and contracts became blurred since changes made to adapt to the increased work affected all the grants and contracts, including the original five. The following sections describe contract activities performed for the Project in general, and activities *that were* specifically undertaken to assist the five original grants. This report does not describe activities that were performed specifically to assist new grants or contracts or activities that affected the original grants that were performed under other contracts.

During the second year of the NADR NDC&E contract, NOVA concentrated on upgrading the management of data, providing technical assistance to the sites, and disseminating information. NOVA first improved the existing data entry software while creating a new data entry package in "C" computer language. The new DE package was a vast improvement over the old system, enabling an entire questionnaire to be entered at once instead of in seven (7) sections. Technical assistance was provided to the grants in the form of a two-day training curricula for administering the AIA and the AFA. These trainings not only fostered communication between NOVA and the grant programs, but also improved the quality of the data collection. The first issues of the NADR newsletter, ***Network,*** *were* published in Year-2 and the NADR Resource Center on AIDS (RCA) was established, further fostering information exchange.

Project Management and Administration

Monthly Progress Reports and Quarterly Briefings

NOVA continued to submit monthly progress reports to NIDA throughout Year 2. These reports detailed the work done for that month and expected progress for the upcoming month. NOVA also continued to inform NIDA as to progress on the NADR contract through quarterly briefings The quarterly briefings were conducted as both formal and informal presentations to NIDA staff.

Evaluation

NOVA prepared a detailed questionnaire for establishing process description of all the NADR programs. The questionnaire, entitled ***Research Questions for Process Descriptions and Evaluation,*** had 12 sections including program management and organization, outreach, ethnography, and research and evaluation among others. In July 1989, NOVA published Self ***Reported Program Descriptions,*** a compendium of all the program descriptions in summary table format. The tables included outreach methods and plans for sampling subjects for interviews, AIA interviewing, AFA interviewing, validation of interviews, and materials accompanying questionnaires. This publication was sent to all program Principal Investigators to facilitate program coordination, improve sharing of ideas, and assist in problems resolution.

Collaborative Meetings

During Year 2, NOVA conducted two types of collaborative meetings: Regional Research Meetings and the Annual NADR National Conference. Prior to convening the regional meetings, five geographic groupings of grantee programs were established. Grantee programs were assigned to the Northeast (six programs), Seaboard (six programs), Midwest (five programs), Southwest (five programs), and Western (seven programs) regions. The grantee sites in each region are shown on the maps in Appendix B. The original five grantees were placed into the appropriate regional group and took a lead role in each of the regions in developing and leading research agenda issues, in collaboration with NIDA.

Regional Research Workshops

The Regional Research Workshops were convened to jointly address research issues identified and, through consensus building, to generate recommendations that would assist NIDA in planning and developing efforts to better assure measuring the efficacy of interventions and comparability of outcome findings among the grantee sites. The Regional Research Workshops were held between February 22 and April 5, 1989 in each of the five regions.

The Regional Research Workshops were designed to respond to the participants' desire for a structured opportunity to address a variety of complex research issues. The goal of the Regional Research Workshops was to discuss major research issues and develop recommendations to enhance research integrity.

NOVA Research's Coordination Role. NOVA Research coordinated the five regional workshops and provided facilitators at each. The facilitators were senior research staff who helped provide direction to the discussions and wrote the meeting minutes and recommendations. The first regional workshop was held for the Seaboard Region (Clyde McCoy, Chair) February 22-23, 1989 in Bethesda, Maryland. The Midwestern (Annette

Green, Chair), Western (Eric Margolis and Pat Biemacki, Co-Chairs), and Northeastern (Stephanie Tortu, Chair) regions all held meetings in March.

In April, the Southwestern Region held the final Regional Research Workshop in Houston, Texas (Antonio Estrada, Chair). Upon the meeting's conclusion, NOVA staff drafted summaries of this workshop and the four others that were held in previous months, These summaries were *then* forwarded to the chairperson of each workshop for comments. After receiving approval from the five Chairpersons, NOVA distributed ***Proceedings: Regional Research Workshops, February-April 1989*** to the sites.

Regional Research Workshop Recommendations. Four research issues were discussed at most workshops: (1) sampling representativeness and follow-up, *(2)* reliability and validity, (3) process descriptions and intervention integrity, and (4) outcome evaluation/measures of efficacy. A brief summary of the findings and recommendations from each work group follows.

Sampling Reuresentativeness and Follow-up. The Regional Workshop participants noted that the NADR "universe" cannot be defined and that the national database may not be representative of the entire universe of IVDUs and sex partners. They stressed the importance of defining their individual program target populations, addressing how those who participate differ from those who do not (and why), and of understanding biases in sampling and taking steps to overcome biases. Several procedures were recommended for defining a sampling frame, and sources of sampling bias were identified.

All groups agreed that follow-up is crucial to documenting outcome. They noted that the follow-up design should be planned at least two months in advance. The follow-up sample, using either 100 percent of original AIA subjects or a randomly selected subsample of AIA respondents should achieve an 80% or better follow-up rate. Groups recommended that stratified sampling be considered, with oversampling (if necessary) to assure sufficient sample sixes for various subgroups (e.g., female sexual partners, Hispanics). In discussions of follow-up, workshop members identified a number of tracking and follow-up methods that have proven effective, such as documenting and verifying Locator Form information at or after the AIA interview, periodically updating this information, and contacting, during follow-up tracking, a range of individuals, institutions, and information sources (e.g., family, friends, probation officers, medical examiners).

Reliability of the AIA. Workshop members agreed that, since all programs were using the AIA, the reliability of this questionnaire needed to be well established and should be a national-level effort Participants generally concurred that a test-retest method was the best method for checking reliability. Total consensus was not reached on the amount of material to be reasked; some groups opted for a retest of the entire AIA while others thought that selected questions or sections would be sufficient. However, the groups agreed that a different interviewer should be used for the first and second AIA administration with each selected subject. Opinions on the length of the time between the first interview and the second varied somewhat among groups (from one hour to two weeks) but, overall, suggested a time span of 1-14 days. The groups noted that a

minimum of 200 completed retests would be required. Most thought that 20-30 retests per program would be sufficient. It was agreed that monetary incentives would be the prerogative of individual programs.

Validity of the AIA. Some common issues concerning validity of the AIA and AFA arose during the deliberations. Recommendations were made for ameliorating each problem One was the low literacy level of some respondents; participants recommended reading of show cards to such respondents and repeating/rephrasing of items to enhance understanding. It was recommended that interviewers probe to assure "always" is intended to mean 100% and "never" as 0% of the time.

Other validation methods recommended were: (1) use of the "bogus pipeline" technique, (2) tests of body fluids, (3) use of blood samples as multiple measures (e.g., not only for HIV but also for hepatitis, syphilis, etc.), (4) medical examinations and/or medical record checks, (5) ethnographic studies, (6) examination of criminal justice system records, (7) internal consistency checks, (8) meta-analysis of existing literature, and (9) centralized collection of individual program validity studies.

Process Descriptions and Intervention Integrity. Three of the five regional groups devoted considerable time discussing process evaluation/descriptions and the integrity of the interventions.

In relation to process evaluation, the Seaboard group refined a model comprised of three domains: (1) community, (2) target population, and (3) project. Questions related to "What?," 'When?," "Who?," and "How?," would be addressed, as appropriate, for each domain at baseline (Time 1) and at ongoing intervals. The Midwestern group also identified the need to describe different domains or "modules" over time; members recommended that (1) study design drive the process evaluation (including hypotheses related to intervention), and (2) priorities and sequences used in the intervention be clearly documented. The Southwestern group stressed the need to document several process variables, including: (1) time (dates/duration of different interventions, schedules for outreach workers), (2) location (sites where outreach contacts are made, interventions provided and referrals made), and (3) staffing (characteristics). The Northeastern group, while not discussing process evaluation in depth, did recommend that a variety of methods be employed (e.g., diaries, counts, formal procedures) to ensure internal and external intervention efficacy measurement validity.

In relation to intervention integrity, most members of the Midwestern, Northeastern, and Southwestern groups agreed that the interventions should be "fixed" at some point in time and recommended that the stabilization follow a pilot-test of the interventions. Two groups recommended that criteria be established for pilot components of the interventions.

Outcome Evaluation/Measures of Efficacy. The four regional groups that addressed measures of efficacy devoted most of their time to identifying single and composite measures they believed were important to outcome evaluation. The focus was on

identifying outcome variables not included in the AIA or AFA. While there were some commonalities across groups in recommended measures, them were also many differences, a factor that resulted in a rich source of potential outcome measures.

Annual Meeting

A significant effort in the second half of Year 2 was planning for the First Annual NADR National Meeting. NOVA staff and staff of the Community Research Branch met regarding meeting content, format, and potential participants. In July, 1989, NOVA sent a list of suggested categories for presentations, panel discussions, and poster sessions to staff at each site. Participants were asked to share information in the following categories: (1) ethnography, (2) risk behaviors of IVDUs and sexual partners, (3) evaluation and follow-up, (4) outreach and intervention with IVDUs and sexual partners, (5) training, (6) methodology, (7) networking, and (8) HIV testing. Program personnel were also given the chance, through a research and demonstration category, to present preliminary findings from their sites. Broad participation from all levels of program staff was encouraged. It was also decided that portions of the meeting would be devoted to the newly completed Sexual Partners Model and to the results of the recent AIA Reliability Study. Two plenary sessions were scheduled: the Monday morning opening session would feature presentations by a senior-level NIDA official, and the Tuesday plenary would feature a panel comprised of Principal Investigators (PIs) from seven of the first year (1987) NADR/ATOM programs.

NIDA intended that the meeting be participant-led; thus, sites were encouraged to offer their own ideas as well as to volunteer for participation under one of the suggested subject areas. Once the topics had been selected, NIDA and NOVA staff collaborated on finalizing the agenda, which was distributed to all prospective participants in September.

NOVA conference support staff worked with the Crowne Plaza Hotel to arrange meeting rooms, sleeping rooms, audiovisual equipment, and food and beverages. Detailed meeting room plans were drawn up explaining in textual and graphical form the set-up of all plenary and break-out rooms. The set-up plans included: type of chair arrangement (i.e., theater, banquet, conference, or school room); placement of microphones, slide and overhead projectors, and recording equipment; and placement and times for food during breaks.

NOVA also prepared name tags, a program and abstract book, and a diniig guide, for all registered attendees. In addition, NOVA collected Metro guides, pads of paper, and pencils for distribution to meeting participants who requested them.

NOVA also hired a professional photographer to take pictures at the conference for use in *Network* and in Summary *Minutes of the First Annual NADR National Meeting.*

Software Development and Data Management

DE Systems Programming

Information was collected by Interviewers and coded by Interviewer Supervisors. They were then entered into the computer by each local NADR program staff. The data entry system used at that time was a customized version of SPSS developed in Year 1. During Year 2 the DE System was substantially rewritten. This rewrite/upgrade involved a major programming effort on NOVA's part. This Year 2 upgrade was written in C computer language and significantly improved the speed and accuracy of data entry. The upgrade activities to the DE system done during Year 2 are summarized below.

(1) The original SPSS DE II data entry program captured information using both alphabetic characters and numeric characters. The first upgrade reprogrammed the variable definitions from alphabetic to numeric characters. This was done to improve the ease of microcomputer analysis of the data. Microcomputer analyses could not be easily done on some variables without significant conversions using the original data entry version because of alphabetic characters used for some variables (i.e., frequencies from the AIA cards A to E, these were internally converted to 0 to 4 numeric values).

(2) The second data entry program upgrade improved on the prior version by reformatting the sections and adding new variables corresponding to questions that were added to the AIA in Version 8.0 (final).

(3) The third upgrade was a NOVA data entry program written in C computer language. This version allowed the keyer to key an entire questionnaire at one time, whereas in the SPSS versions it was possible to key only one section at a time because of SPSS computer memory limitations. In the original system, for example, a keyer would key section A of ten questionnaires, then key section B of those same questionnaires, and so on. For each new section, the keyer would have to reenter the nine-digit respondent identification number for each questionnaire. This process was not only time consuming, but also created a situation which was prone to keyer error. With the new NOVA DE program, the likelihood of keyer error was substantially reduced, and keying time was also significantly reduced. Data were then verified at each site using the NOVA-designed programs.

Data Collection/Processing

At the outset, NOVA assumed responsibility for handling the data transmitted from each program site. NDC&E Center staff worked collaboratively with sites in editing and coding AIA Versions 6 and 7.2 interview schedules and NOVA staff subsequently key entered the information into the national database. This was done to facilitate building the

national database while the SPSS DE II program was under development. Version 7.2 AIA's were only to be a limited field pilot test. However, two sites did several hundred before converting to version 8.0. Since NOVA did not produce a specific 7.2 DE program, we provided DE technical assistance for these two programs. The process involved the fallowing steps:

1. Programs submitted 975 Version 6.0 AIAs and 705 Version 7.2 AIAs to NOVA.
2. NOVA staff logged each questionnaire, indicating date of receipt; a batch log was used to record date of receipt, site identification code, and respondent IDs. Log sheets from sites were stapled to the back of the NOVA batch log.
3. NOVA staff then edited each questionnaire; coding errors, inconsistencies, and other problems were noted on the instruments. Interview Supervisors were called to discuss problems. Changes required were relayed to Supervisors so they could correct future interviews.
4. NOVA then key entered the data on microcomputers using SPSS Data Entry II and verified the keying with a second operator. A 100% verification criterion was adhered to for all data.
5. NOVA then placed the data into ASCII files for uploading to the Parklawn Computer Center mainframe master database, and sent floppy disks of the data to the respective grantees.

As the grantees have set up their own data transmission systems, NOVA performed the first four functions described above only on a limited scale; the last function, however, remained a major NDC&E Center task.

Data Documentation and Support

NOVA prepared detailed documentation of all procedures for using the data entry, verification, and quality control programs. Each version of the data entry program required instructions on installation and use. Step-by-step manuals were produced for each program to facilitate their implementation and routine use.

To assist the programs, a ***Data Entry Procedures Manual,*** complete with a data dictionary and record specifications, was prepared by NOVA and sent to all sites in January 1989. ***The data*** dictionary and record specifications define all variable names, lengths, data editing rules, and record positions used to create customized data entry screens.

Using the standard procedures specified in the manual, programs transmitted data on floppy disks to the Center staff, who then performed quality control procedures, uploaded the data to the Parklawn Computer Center mainframe, and conducted statistical analyses using SAS programs.

NOVA offered telephone technical assistance on all aspects of computer operations, from program installation to creation of the data files that were sent to NOVA. Questions and answers were recorded in a response log. This log aided in determining trouble spots in the questionnaires and the data entry process. Questions varied from those specific to the AIA data entry to those concerning the installation or use of the data entry software package. From August 1988 to the end of Year 2, NOVA received an average of 10 to 15 calls per month. On-site assistance was offered by NOVA when needed.

Quality Control

Year 1 quality control procedures continued being used for all NADR data. Under this protocol, NOVA requested a random sample of 15% of a program's questionnaires to be sent for coding and key entering. The NOVA-keyed files were then compared with the site-keyed files for discrepancies. A 98% data accuracy rate was required for data to be entered onto the master national database. If this accuracy level was not attained, the grantee/contractor programs were required to recode, reedit, and reverify the failed data batch.

Once the data were uploaded to the national database, further quality control and data consistency checks were made using SAS programs written by NOVA. These reports were sent to each program's Data Manager for verification and corrections.

Data Screening

Work on upgrading the data screening system began in August, 1989. The upgraded system detected more potential data problems and detected them earlier than the previous system This system had an expanded case screening process, contained a new system for returning individual rejected cases, and identified whether a case had been verified. Once the screening process was completed for each batch of data, a "screening process results memorandum" was generated and sent to the Data Manager. The memorandum listed the following: number of batches received, number of cases received, number of cases verified, number of cases accepted for further processing, number of cases held pending confirmation, and number of cases rejected/returned for correction. A print-out detailing the screening results for each case was included with the memomndum.

Once data were successfully screened on the microcomputer, the data were then passed to the mainframe. Mainframe screening repeated some of the screening performed at the microcomputer level and went a step further to check additional information. At the mainframe level, major demographic discrepancies, minor demographic discrepancies (both screened at the microcomputer level first), and date-of-interview discrepancies were checked. The mainframe also checked for possible duplications between the current upload and cases already contained in the database. Missing critical values were screened and reported. These variables (e.g., respondent identification number, interviewer, birth month and year) must contain values for successful storage in the NADR national database. Any case missing a critical value was set aside in a separate data file pending update/addition of

the critical information. In all situations, reports were generated that identified discrepancies and provided counts of successful uploads and of cases in error.

Technical Assistance

Documentation Support to Grantees

Since April 1989, NOVA has prepared seven manuals for use by NADR sites. Each of these manuals is described below.

AIA Interviewer/Supervisor Training Manual and AFA Interviewer/Supervisor Training Manual (Two Manuals)

These two manuals, prepared in April and July, 1989, respectively, were designed to assist Interviewer Supervisors and Interviewers in collecting and coding interview data. Both manuals contained background information about the program and directions for conducting interviews. They also contained an appendix that enumerated the responsibilities of the Interviewer Supervisors. NOVA trainers, who used these manuals extensively in their workshops, were able to incorporate many pragmatic and helpful suggestions from Interviewers and Supervisors into the revised version of the manuals.

Detailed Coding Manuals for AIA and AFA 8.0 Data Entry (Two Manuals)

These two manuals, produced in April and August, 1989 respectively, gave question-by-question instructions on how to code the AIA and AFA questionnaires and how to follow the skip patterns. In the AIA manual, the AIA questionnaire was presented on the left side of the page in black ink and the coding instructions on the right in red ink. The AFA was presented in a similar fashion; however, the coding instructions were in black ink.

Instructions for Using NOVA AIA and AFA DE 1.0 Programs (Two Manuals)

Manuals for using the data entry programs were sent to sites in June and August, 1989. The June mailing included the data entry package for AIA, HIV, and Contact Screener data and user installation and use instructions. The August mailing contained the AFA data entry package and instructions on its use.

Coding Manual for Open-Ended AIA 8.0 Questions

This manual, developed in September, 1989, was designed to standardize the coding of the 52 open-ended responses in the AIA, Approximately 5,000 cases were used to discover patterns and create coding categories. Guidelines and instructions to simplify the coding procedures for open-ended responses were included in this manual. Also included were common editing and coding mistakes and an appendix containing common abbreviations and a Table of Codes.

Program Library

In July, 1989, NOVA delivered a preliminary NADR data processing program library to NADR/ATOM sites. Written by NOVA staff, the program library was a set of computer programs that were used on a regular basis. NOVA's technical support staff made the program library available to the sites after receiving a number of requests for SAS PC, SPSS/PC+, and mainframe SAS programs. The sites could use the programs in the library and modify them to meet their own needs. This helped the sites gain better access to NADR data and build their own program libraries.

The program library represented another stage in a continuing effort to establish data collection, processing, and analysis standards. It contained computer programs used to process AL4 8.0, HIV, and AFA data in ASCII and SAS formats. Plans for expansion were made and included changes in the library suggested by NADR program staff and development of SPSS procedures for use with SPSS PC+.

Data Recoding

Before development of the AIA, Version 8.0, AIA, Version 7.2 was used by some of the original five grantee sites. These sites conducted from a few to several hundred interviews using the 7.2 version of the AIA. Since this AIA differed from the final Version 8.0, the data collected also differed In an effort to retain valuable data from these early interviews, a data-conversion plan was implemented in July, 1989. For variables with a one-to-one correspondence between AIA 7.2 and AIA 8.0, the variables were converted exactly. Some variables needed modification before they could be converted, and there were some variables for which the questions differed sufficiently that they were recoded as missing data. The conversion software was written and implemented in late July, 1989.

Data Analysis

Once data were collected, coded, keyed, verified, and uploaded to the national database, they were ready for analysis. NOVA's statisticians used the data to prepare a number of monthly and quarterly reports. NOVA sent monthly administrative and quarterly analytical reports to all sites submitting data. The reports gave frequencies and percentages for demographic data collected, including age, gender, ethnicity, drug use, and sexual practices. These reports were generated for each site based on the site's own data.

In January, 1989, NOVA delivered the first series of quarterly analytical reports to NIDA. The reports contained approximately 100 different analytical tables based on data collected through the last quarter of 1988. They also showed basic distributions for IVDUs and sexual partners. Programs specifically targeting sexual partners of IVDUs were sent the analytical tables of aggregated national data dealing with sexual partners, including separate tables far men and women.

In addition to these monthly and quarterly reports, NOVA prepared other data analyses, including responses to ad hoc requests from NIDA. Data analyses were performed for use in press releases, the NADR newsletter, and for two poster presentations at the Fifth International Conference on AIDS. Using similar analytical techniques, NOVA's statisticians and statistical programmers developed risk scales for summarizing sexual and needle-sharing behaviors and did an empirical examination of the validity of condom use and sexual partner data.

Monthly Administrative Reports

Each month NOVA generated Monthly Administrative Reports. These reports contained data on target groups, gender and race distributions, and HIV and follow-up frequencies. These reports were revised in April, 1989 to include data from earlier versions of the questionnaire (AIA 6.0 and AIA 7.2).

Analytical Quarterly Reports

Analytical Quarterly Reports were sent to all sites submitting data The reports were developed using aggregate national data, including all data contained in the NADR NDC&E Center database. The reports gave frequencies and percentages for demographic data collected, including age, gender, ethnicity, drug use, and sexual practices.

During July 1989, a series of eight reports was added on patterns of drug-use frequencies by demographic categories. The first set of reports showed variations across race and gender in drug use and frequency of use. For example, among Black males and females, reported use of cocaine on a less-than-daily basis was the most common pattern, while Hispanic males and females reported daily use of speedball (heroin and cocaine) more frequently than other drugs.

Ad Hoc Data Analysis Requests

NOVA performed numerous ad hoc data analyses for NIDA and the NADR program investigators. In March 1989, for example, NOVA conducted an interim analysis of mobility data for NIDA. This entailed looking at the cumulative March data set of IVDUs and determining the cities that each one visited. Maps and quantitative analyses were prepared. These analyses were sent to NTDA for review.

Also in March, NOVA conducted a logistic regression analysis of HIV data. The analysis was related to risk factors developed from the AIA. In June, analysis was done on drug-use patterns. In response to a general need for more information on drug-injecting patterns for persons who inject cocaine, heroin, or speedball less than daily, a new approach was developed. The new approach combined injecting behaviors and frequency of injection to allow identification of patterns most frequently observed among IVDUs by gender and race.

In July, NOVA's Statistical Group developed transmission risk scales focusing on needle-use and sexual behaviors of the IVDU that place others at risk for HIV infection. Similar risk scales had already been developed for "risk rto self." These risk scales were proven to be useful in conducting national descriptive outcome evaluation.

Prior to the First Annual NADR National Meeting, NOVA completed a number of data analysis requests for NIDA and the grantees to be presented at the meeting. These included analyses of Hispanic drug use, IVDU travel data, sexual partner data, and AIDS education data

Reliability Study

A summary of the reliability study, the ***Reliability Report, was*** prepared for presentation at the First Annual NADR National Meeting. The report defined reliability and presented data from the participating sites (Houston, Cleveland, Hartford, Long Beach, ***New*** Orleans, Pittsburgh, Portland, San Antonio, and Tucson). The total number of interview pairs completed for the reliability study was 239. Of the 239 pairs, 203 were eligible for the study. These participants were interviewed with the AIA and reinterviewed with the entire AL4 within three to ten days after initial administration. Reliability estimates of the questionnaire items were obtained using measures of percent agreement between responses on the two AIAs. Alternative reliability estimates were calculated using correlation analysis (e.g., Pearson's product moment correlation) and a nonparametric measure of association (Kappa).

AIA and AFA Training

Members of the NOVA training team thoroughly reviewed the AIA and AFA questionnaires and produced new, three-day AIA and two-day AFA training models for use in the field.

In August, 1989 a Training of Trainers (TOT) session was conducted. The purpose of this session was to certify one or two staff members at each site to train new staff members in the administration of the AIA and AFA when Interviewer turnover occurred. The Training Group designed a ***Trainer's Manual specifically*** for use in these sessions and prepared training-oriented annotated AIA and AFA manuals.

This TOT course included a knowledge inventory, role plays, energizers, and presentations in training theory and methodology.

Information Dissemination

Program Orientation Book

A key program resource-the ***Program Orientation Book-was*** completed at the start of Year 2 and sent to each program site in January, 1989. The looseleaf format made

it readily accessible to users with specific needs, and also permitted insertion of new documents as they were developed and transmitted to programs by NOVA.

Net work

Communication among the new 29 grantees and 12 research contractors programs was enhanced by the publication of ***Network,*** a quarterly newsletter sent in multiple copies to all NADR programs as well as to selected agencies and organizations in the drug-treatment community. Several discussions were held between NIDA and NOVA staff during the first six months of Year 2, concerning the editorial focus of the publication. It was decided that the lead article would be based on an analysis of recent research data that had strong clinical implications. Invited commentaries on the article were requested from one or two Principal Investigators and other experts in drug treatment who were not associated with the NADR program, and an editorial was prepared by Dr. Barry Brown, Chief, Community Research Branch and head of the NADR Project. Each issue of ***Network,*** it was decided, would contain an insert, ***Inside Network, specifically*** for program staff.

June 1989 marked the debut of ***Network.*** A second issue appeared in September 1989. More than 700 copies of each issue were distributed to NADR/ATOM program sites and to selected organizations in the drug abuse treatment and AIDS prevention communities, including the Centers for Disease Control, the Alcohol and Drug Program Association, and the National Association of State Alcohol and Drug Abuse Directors.

In keeping with editorial decisions voiced by the NIDA Project Officer, ***Network was*** designed to focus both on research findings and on the community service implications of NADR research. Production of ***Network*** included: draft story outline, complete with writing assignments; submission to NIDA's CRB for review and approval, preparation of drafts by NOVA, and submission of approved copy to Community Research Branch (CRB) staff for review. Changes were incorporated, a page layout was prepared, and copy was again submitted to NIDA for a final review before being sent to the printer.

Lead articles in issues one and two concerned new insights into risk patterns of intravenous drug users and of female sexual partners, respectively. The second issue, four pages longer than the 12-page first issue, included a special section on NADR/ATOM staff participation in the Fifth International Conference on AIDS. Included in both issues of ***Network was*** a one-page insert, ***Inside Network,*** which contained information of interest to Project staff and was distributed solely to NADR/ATOM programs.

Response to ***Network was*** positive; requests for copies were received from several foreign countries, including Greece, Great Britain, and Australia.

Client-Education Flyers

In Year 2, NOVA was developing a series of client-education flyers that would cover a range of issues related to AIDS prevention and drug use. Two flyers were drafted as of September, 1989.

NADR Resource Center on AIDS

In Year 2, NOVA, as the NDC&E contractor, established a NADR Resource Center on AIDS (NADR RCA). The NDC&E Center Librarian at NOVA issued a bibliographic resource needs questionnaire to all NADR/ATOM Principal Investigators. In accordance with wishes expressed in the 27 responses received to this questionnaire, the Resource Center staff gave priority to reviewing and providing information on audiovisual and client-education materials and to preparing a bibliography of training materials,

Another priority was to create a resource database for the NADR Project. The database, which used a software application called HyperCard, was developed and tested in the Spring of 1989; hundreds of articles and books were entered into the system, making them accessible to NADR research staff. Included in the database were all professional education materials listed in ***Women and AIDS,*** produced by NOVA Research Company under separate contract. The Summer, 1989 edition of this popular bibliography, was nearly 200 pages long.

To better acquaint NADR/ATOM Principal Investigators with work being done by their colleagues across the country, the RCA staff began compiling lists of current publications of staff of the different NADR programs. This publication, ***Research Findings, was*** mailed to the sites monthly. All publications listed were readily available in the RCA files as well as listed in the RCA database.

Between April and September, 1989, staff conducted an extensive review of literature on videotapes in the fields of AIDS education and drug abuse prevention. More than 50 of these tapes were borrowed from their producers for review purposes, and a dozen were purchased. Information on all of the tapes was prepared for dissemination to program sites in October. Also approved for implementation was a NADR RCA Videotape Loan Program, under which site staff could borrow (for a one-week period) tapes from the RCA collection.

The NADR RCA staff also compiled and entered into the RCA bibliographic database a list of some 75 organizations in the AIDS prevention and drug abuse fields. Information on these organizations and samples of their publications were included in the RCA hard copy files.

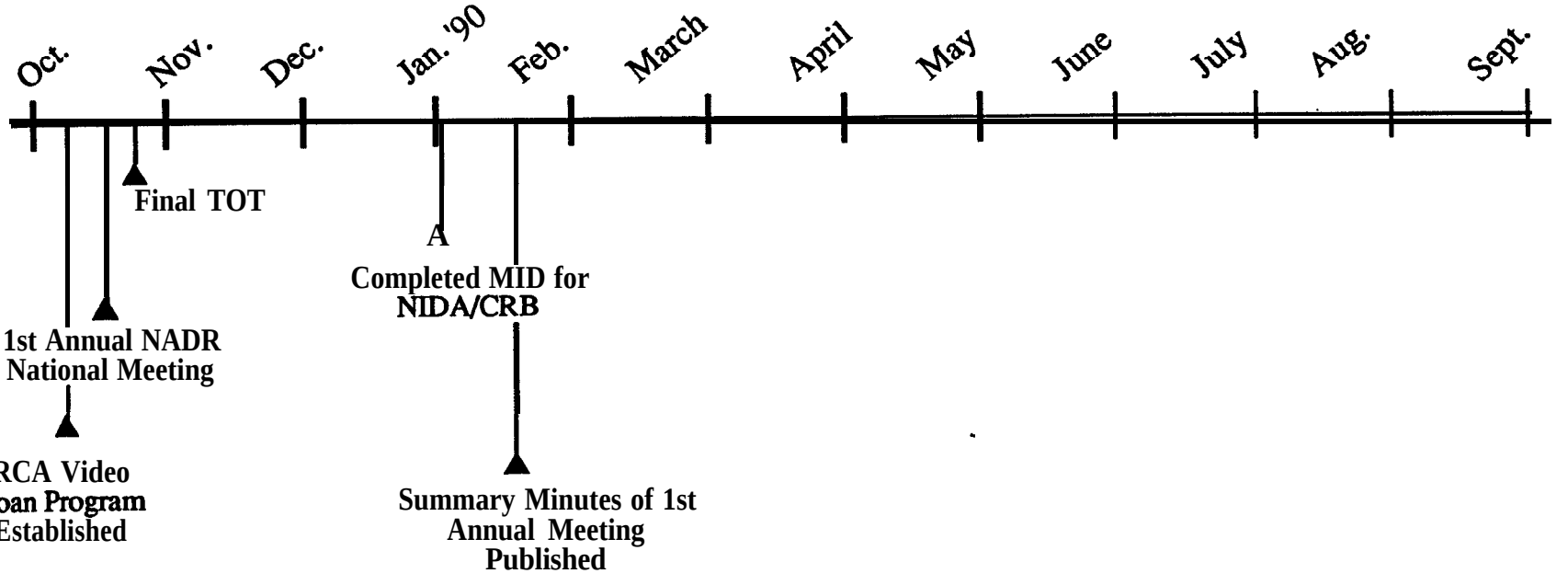
State of the Science Report

NDC&E Center staff assisted Dr. Barry Brown in preparing a "State of the *Science" report* for the Community Research Branch. The report concerned AIDS prevention among IVDUs and highlighted the interventionstrategies of the NADR/ATOM programs.

Summary-Year 2

In Year 1, ***the structure*** of the Project was put in place so that, during Year 2, data could continue to be collected, entered, checked, uploaded to the mainframe computer, and analyzed efficiently. During Year 2, NOVA streamlined and upgraded the data entry system, expanded the exchange of information through ***Network*** and ***Research Findings,*** and performed numerous analyses of data for NIDA and NADR Project personnel.

Year 3 Major Activities



Year 3–September 30, 1989-September 29, 1990

Introduction

As the original contract for the NADR Project entered its third and final year of operation, contract activities continued to grow and expand. A highlight of Year 3 was the First Annual NADR National Meeting, held in mid-October 1989; a second was the widespread popularity of Network, the newsletter of the NADR Project, which by Year 3 reached well over 1,000 readers per issue.

Project Management and Administration

NOVA staff continued to meet regularly with NIDA Project Officers, the Chief of the Community Research Branch (CRB), and other NIDA personnel. These meetings were usually informal and covered the spectrum of activities being conducted on the NADR Project.

The growth of Project activities necessitated a move from NOVA offices on Montgomery Lane in Bethesda, Maryland, to a larger space on nearby East-West Highway. The increased space has facilitated work for NIDA. Modular offices were set up to maximize space and provide an efficient working area and common-access work stations for data entry and quality control personnel as well as for administrative staff. The NADR Resource Center on AIDS was moved to a large open area where all staff and visiting library users have ready access to reference materials.

Monthly Progress Reports/Quarterly Briefings

NOVA continued to deliver the monthly progress reports to NIDA by the tenth working day of each month, outlining achievements for the month and goals for the upcoming month. Formal and informal quarterly reports were also prepared and presented to NIDA.

Management Information System

Project administration at the NIDA Community Research Branch (CRB) was facilitated by a new NIDA/CRB Management Information System (MIS). NOVA completed work on this system in January, 1990 and demonstrated it for the NIDA Project Officers shortly thereafter. NOVA also prepared documentation that explained how to use the system and pre-loaded the MIS with grantee and contractor names, addresses, and pre-established deliverables. The MIS tracked all deliverables due to NIDA from the NADR grants and provided a message, warning of overdue deliverables.

Collaborative Meetings

First Annual NADR National Meeting

NIDA, supported by NOVA, hosted the First Annual NADR National Meeting October 15–18, 1989, at the Holiday Inn Crowne Plaza in Rockville, Maryland. A total of 289 people attended the meeting, which covered such broad subject areas as outreach, intervention, evaluation and follow-up, HIV testing, ethnography, networking, and research methods. Two plenary sessions were held. The opening session on Monday, October 16, was chaired by Dr. Barry Brown and featured a keynote address by the NIDA Deputy Director, Richard Millstein, and a presentation of results of the AIA Reliability Study by Dr. Max Myers and NOVA Principal Investigator, Paul Young. The second plenary meeting, held Tuesday morning and entitled "What I Would Do Differently, If I Were Starting Over," was moderated by seven veteran Principal Investigators from early NADR Project sites.

At the close of the First Annual Meeting, participants were asked to complete an evaluation of the conference and the hotel facilities. Comments were received on such items as the relevance of topics presented at the conference, the length and number of sessions, and the quality of accommodations. Suggestions for ways in which the 1990 meeting might be improved were also solicited. Most of the respondents agreed that the meeting was a good forum for the exchange of valuable information. The hotel and conference facilities received favorable reviews as well. NOVA staff compiled all evaluation materials and drafted a summary for submission to CRB Chief, Barry Brown, and NOVA Project Officer, Erwin Bloom. Summary minutes of the meeting were prepared and distributed to the Principal Investigator and all programs in January 1989. The minutes included three sections of pictures, which captured the excitement and active interchange of ideas that took place at the meeting. A special collage was also created from many of the pictures taken at the meeting and included in the *Summary Minutes book.*

Second Annual NADR National Meeting

Preparations began during Year 3 for the Second Annual NADR National Meeting, to be held November 27–30, 1990 under the second contract to NOVA. The three-day meeting will take place at the Hyatt Hotel in Bethesda, Maryland, and is expected to draw approximately 400 people. NOVA staff designed a meeting logo, and contracted with the hotel for a special group rate for meeting participants. A general information package was sent to all prospective attendees and an abstract submission form and registration form were developed. These were distributed to all NADR programs in July, 1990.

A one-page flier, giving basic information on the meeting, was also sent to each NADR site in July, 1990. Several weeks later, a more complete mailing went to the sites. Included in this second package were abstract submission forms, a preliminary agenda, hotel reservation cards, and meeting registration forms.

During September, NOVA staff processed registration forms and abstracts, as well as responded to numerous telephone inquiries about the meeting. Staff also met with the catering manager at the Hyatt to discuss food and beverage service throughout the meeting. A formal cost estimate was drafted and submitted to NIDA for approval.

Members of the Training Group made preliminary plans for several workshops to be held on Tuesday, November 27, 1990 the day before the conference was officially scheduled to begin.

Meeting Summary Minutes, First Annual NADR National Meeting

NOVA staff writers, who had taken notes of and tape recorded each of the presentations, drafted summary minutes immediately following the meeting. An 85-page draft of the minutes was submitted to NIDA for review in November, 1989. After being revised, the minutes were bound and distributed to all meeting registrants in January 1990. Included were proceedings from each of the presentations, panel discussions, and plenary sessions, as well as formal and informal photographs that were taken at the meeting.

Proceedings, First Annual NADR National Meeting

With the ultimate goal of publication of conference proceedings in scientific-manuscript format, NOVA staff contacted nearly 60 presenters from the First Annual NADR National Meeting and requested that they submit copies of their papers to NOVA. Members of NOVA's Health Education Group edited, rekeyed, and reformatted the manuscripts into a common style. They were returned to their authors for final approval and then submitted to Dr. Barry Brown at NIDA. It is expected that the collected papers, which number 52, will be published as a NIDA monograph in late 1990 or early 1991.

Software Development and Data Management

Computer Software Development

NOVA's Microcomputer Systems Group enhanced software for three microcomputer functions-data entry, screening, and quality control. The Mainframe Systems Group also developed mainframe software that was used in enhancing reports preparation and other production system functions. A major piece of work done during Year 3 was the development of a software program that searched the database for cases with similar demographic characteristics. Once identified, the cases were further scrutinized to determine if they were duplicates. The procedure for making corrections to the national database was further streamlined and automated during the last part of the year.

New Data Entry Programs/Data Conversion

Two enhanced and improved versions of the NOVA data entry (DE) package were sent to the sites-one in November, 1989, the second in January, 1990. As a result of

these modified programs, users can remove cases marked for deletion and, upon exiting the program, display a list that gives the verification status of all cases entered.

As the data entry packages improved, several of the sites requested assistance in converting their data from SPSS DE or early versions of NOVA DE, to the current DE version. Both the Philadelphia and San Francisco grantees converted all of their AIA version 7.2 data to AIA version 8.0, which granted them access to a substantially expanded local database.

Microcomputer Screening System

NOVA's microcomputer screening system was expanded to integrate batch-level status information from the quality-control process, the national database, and the monthly activity reports for each site. A program was developed that produced a consolidated status report for the NIDA Project Officers. A second program was developed that provided a fast and simple edit capability for all microcomputer master files. A program to process site confirmations of pending cases was also completed.

Quality Control

NOVA computer programmers implemented and tested a new quality-control analysis program that was designed to check HIV-test data. It was tested using data from seven sites. An accompanying *HIV Coding Manual was* prepared and distributed to the sites.

The selection process for choosing a random sample for quality-control testing was revised to select a sample size of exactly 15% of each batch. The previous selection process selected 15% of the batches sent in a single transmission. In the prior system, a small batch might not be included in the selected sample. This new quality-control selection process permitted a pass/fail determination for each batch. NOVA also revised the process for screening probationary data (data from a site that has just begun to send data or that has sent data that failed quality control in the past). The sites will continue to be provided with additional information on the status of each case being held for quality-control testing.

Mainframe Computer Interface

Query Menus. Menus were developed to enable users to query the NADR database for specific RESIDs or site/batch counts. The menus cycle from panel to panel and produced correct counts for site query of the database.

Monthly Administrative and Quarterly Analytical Routine Reports. Three new reports were coded to add to the existing Quarterly Analytical Reports. The reports cover frequency of non-IV drug use for IVDUs, frequency of non-IV drug use for sexual partners, and speedball-, heroin-, and cocaine-injection patterns for all IVDU respondents. The first two reports showed the number and percentage of persons who engage in drug

use at various frequencies. The third report showed the number and percentage of IVDUs who engaged in various injection patterns.

NOVA staff completed the uploading of the various descriptions for the monthly and quarterly reports. These descriptions comprised two sections: one explains how to execute upload procedures at the PCC, the other how to read each of these reports. This process simplified the uploading of data to the national database and made the monthly and quarterly reports 'easier to understand.

Another effort of the Mainframe Systems Group at NOVA was the development of the SASGRAPH analytical graphs package. This package produces graphical representations of the data in the master national database.

Data Management

Data management was accomplished through a highly organized series of steps. These steps were adhered to rigorously and ensured that data uploaded to the national database were of the highest quality possible. Once data were received at NOVA, they were logged in, screened, and uploaded to the national database. A 15% sample was selected from each batch for quality control purposes, as noted earlier.

Logging

Data received at NOVA were logged in immediately. All data diskettes were logged as to site number, batch number, diskette number, number of cases, date, and other specifications. This information was used to track the progress of the data at each step along the way to its final destination on the PCC national database.

Screening

All incoming data were screened using an enhanced program programmed by NOVA and implemented in October, 1989. The enhanced program detected more potential data problems and detected them earlier than the previous screening system. It had an expanded case-screening process and a new system for returning individual rejected cases; it also identified whether a case had been verified.

Once each batch of data was screened, a *screening process results memorandwn was* generated and sent to the data manager. The memorandum listed number of batches received, number of cases received, number of cases verified, number of cases accepted for further processing, number of cases held pending confirmation, and number of cases rejected/returned for correction. A print out detailing the screening results for each case was included with the memorandum.

Quality Control

NOVA continued to maintain high standards of quality control, processing 15% of all cases received. The overall quality of the data steadily improved after implementation of the new NOVA DE 1.0 program.

The quality control process began by requesting from the site the actual questionnaire used in the interview. Once received, each questionnaire was recoded and rekeyed by NOVA staff. Sites were routinely informed of the status of their batches, and rejected batches were sent back to the sites. Batches were rejected if there were more than 30 critical errors or more than 10 keying errors in a sample of 10 interviews.

Uploading

Once collected and logged, data were uploaded to the PCC mainframe computer. The process for uploading data, which was refined and formalized in October, 1989, counted the number of cases being uploadedto the national database and the number of cases in the database after an upload. Taken together, these two counts verified that each case sent to the mainframe actually made it into the PCC national master database.

Summary reports were prepared for each upload. These reports identified counts by site and pointed out duplicates that were already included in the analytical database as well as cases uploaded to PCC, but not included in analytical data set, either because there was no matching AIA or because major demographic data between two matched cases did not match. These cases were placed in a "pending corrections" data file.

Once cases were uploaded to the mainframe, NOVA ran consistency reports on them These reports identified the number of missing values and the variables and values that were outside standardized acceptable limits for each case, based on the majority of cases previously received.

Technical Assistance

Documentation Support for NIDA Grantees

During Year 3, NOVA continued to respond in a timely way to requests for technical support from grantees, NIDA, and others, and to supply documentation needed to assist the programs to operate more efficiently.

Technical Assistance Requests

Requests for technical assistance from NADR programs and external organizations and individuals ranged between 40 to 80 per month between October 1989 and April 1990. A majority of these inquiries were requests for NOVA publications such as Network, software manuals, and meeting pmceedings, or for educational videotapes from the NADR

Resource Center on AIDS Video Loan Library. As the NADR Project became more nationally known in the AIDS-prevention and drug abuse treatment communities, increasing numbers of these requests came from external sources. Data entry-related questions were handled promptly by staff members of the Microcomputer Systems Group.

Information on all requests and their disposition was summarized in a Macintosh database developed and maintained by the Library Group and submitted monthly to the NIDA Project Officer.

Comprehensive Documentation for Mainframe Systems

A comprehensive mainframe systems documentation schedule developed by NOVA was approved in November, 1989. At that time, it was decided to give the creation of operational instructions priority over other technical sections in the development of this documentation. Draft documentation of operational instructions to execute all NADR database production procedures at PCC was subsequently developed. After internal review, the documentation underwent an initial revision. Both the analytical and administrative reports were updated and rewritten. Included in the documentation were descriptions of each report and instructions on how to interpret them. In addition, documentation for the database maintenance function was written. This section covered a number of activities such as editing and updating, reconciliation, monthly rollover, and *analytical* file generation.

HIV Coding Manual

NOVA completed and delivered to all sites a revised *HIV Coding Manual* containing explicit instructions on how to code specific items for clients who received HIV-antibody testing. A form for recording test results, the use of which is optional, was included in the package. It was hoped that the *Manual* would ensure a greater degree of uniformity and accuracy in the reporting of accurate laboratory reports on both the ELISA and Western Blot tests.

Training

On October 22–27, 1989, NOVA trainers conducted the final Training of Trainers Workshop in administration of the AIDS Initial Assessment (AIA) and AIDS Follow-up Assessment (AFA) survey instruments. Held in St. Louis, Missouri, the four-day session was supervised by NOVA's Master Trainers. Twelve staff members attended. All participants of the training were certified as local site Lead Trainers. This workshop concluded the NOVA sponsored AIA/AFA training.

As the original NADR programs moved into final phases of operation, subject follow-up became more important. Follow-up techniques for outreach workers were discussed at a meeting hosted by NOVA consultant Dr. Dave Nurco. Twenty-three staff members from five NADR sites attended the session, which was held December 14–15, 1989, in Dayton, Ohio. The emphasis of the meeting was on helping outreach staff obtain

sufficient locator information to enable them to find and contact clients for the six-month follow-up appointment, at which the AFA was administered.

Staff collaborated with experts in the development of a follow-up training curriculum to be administered to the sites. A planning meeting was held to formulate the new follow-up training curriculum. Included in the discussion were the various obstacles encountered in locating clients for follow-up. The group outlined the curriculum as follows:

- Develop goals and objectives for each unit
- Develop activities and materials for each unit
- Write a trainers' script
- Compile and write text material
- Design visuals needed for training delivery
- Design forms for use in "action planning" sessions
- Create a supplemental follow-up handbook for use in training.

Information Dissemination

Network

Over the course of Year 3, the circulation of Network increased dramatically from approximately 800 to nearly 1,200. Additions to the newsletter mailing list by the NIDA Project Officer included Deans of Schools of Public Health, State AIDS officials, and other interested parties who notified the NIDA Project Officer in personal letters. Production on ***Network,*** Volume 1, Issue 3 began in October, 1989. This issue focused on street outreach and also included complete coverage of the First Annual NADR National Meeting. The issue was 20 pages long and included the premiere of "Legislative Update" in ***Inside Network.***

Work on Number 4, a special issue of ***Network, began*** in February, 1990. This issue focused on the training curriculum, "AIDS Prevention among Sexual Partners of Injection Drug Users." Developed by NOVA Research Company in 1989 (under a separate NIDA contract), the trainings were designed for clinical staff of selected NADR sites. The ***Network*** issue featured photographs of the Training of Trainers session in San Juan, Puerto Rico. This issue was also the debut of the new look and feel of ***Network,*** which was published on glossy stock and printed in two colors.

The next issue of ***Network,*** Volume 2, Issue 1 focused on outreach efforts in institutional settings. A number of sites were highlighted and interviews of site personnel were included in the newsletter. More than 1,200 copies of this newsletter were distributed.

NADR Resource Center on AIDS (NADRRCA)

The NADR RCA Database User's Manual was distributed to all staff accessing the RCA's database. Over 900 items were catalogued in the database, along with a HELP file that included a map of the Resource Center. The manual assisted staff in taking full advantage of the information stored in the NADR RCA.

Video Loan Program. In October, 1989 NOVA established the NADR RCA Video Loan Program, under which educational videotapes on AIDS and drug abuse prevention were loaned free of charge to NADR/ATOM programs upon request. Each of the two dozen tapes in the collection was described in ***AIDS Education*** Videotapes, published by NOVA during that same month. The bibliography was distributed at the First Annual NADR National Meeting and later mailed to all NADR Principal Investigators and Sexual Partner Coordinators. The first loan request was received within a week of the program's announcement. In November, a HyperCard database was designed to keep track of videotapes on loan and reserved through the NADR RCA Video Loan Program.

A brief evaluation questionnaire was included with each loaned tape; its purpose was to collect basic information on the number of showings, number of viewers, and the purpose for which each tape was used. The forms arc maintained in the RCA library and many of the comments were used in our video bibliography.

RCA Database. In January, the RCA database was installed on a Macintosh computer in the Resource Center. The RCA database was a computerized index of materials contained in the resource center. It described how to locate each particular item The database could be searched using subject, author, or title searches.

The first draft of a ***NADR RCA Database User's Manual was*** developed and tested in February. The ***Manual*** assisted staff in locating reference sources housed within the NADR Resource Center.

Program Intervention Manuals

An ongoing activity at NOVA during the contract period was to: 1) review NADR/ATOM program intervention manuals submitted to NIDA, and 2) suggest/recommend ways that the intervention manuals could be improved. NIDA's goal was to help grantees prepare manuals in a how-to-do-it format so that, if proven successful, the AIDS prevention interventions could be more easily replicated in other communities.

Data Analysis

NOVA statisticians performed numerous data analyses for NIDA and NADR personnel and for use in the AIA Reliability Study.

Reliability Study

The reliability of the AIA discussed previously in Year 2, pages 24-25, continued to be a matter of concern to NADR and NIDA staff who were involved in the research investigations and studies that were based on responses to this survey instrument. Documentation of the reliability of the AIA, as evidenced by test-retest consistency, was therefore, a major focus of NOVA statistical analyses.

During October, 1989, NOVA completed the preliminary analysis of reliability data. This analysis entailed calculating a percentage agreement between 203 pairs of AIA interviews administered 14 days apart,. and involving 192 intravenous drug users and 11 sexual partners. Preliminary results were presented at the First Annual NADR National Meeting. The findings showed a significant shift toward reporting lower frequency of injection of all drugs in the second interview, which may suggest an increased awareness of risk in spite of the absence of educational intervention. NOVA statisticians later decided that the kappa statistic would be an appropriate measure for reliability testing on categorical data. Programming for the kappa statistic was done in SAS. For analyses of ordinal and interval data, it was decided that Spearman's *r* and Pearson's *r*, respectively, would be used.

In December, NOVA statisticians produced a preliminary, detailed ***Reliability*** *Report* that described the data-collection **methods,** the rationale for the use of the Kappa statistic, Pearson correlation, and percentage agreement as measures of reliability. The Report also contained the results of the study and interpretation of those results, in a section-by-section discussion of the AIA. A section on the reliability of the "AIDS Information Sheet" contained in the AIA was also included. It involved the use of Cronbach's alpha, which measures the internal consistency of selected items. The fact that composite measures were more reliable than the individual variables used to construct them, was the focus of another section of the reliability study. The reliability of these composite measures, especially those constructed to assess needle-use and sexual behavior risk, was described. Copies of the preliminary Reliability Study Report were sent for review to Dr. Brown at **NIDA** and consultant Dr. Tom McClellan.

The next step of the Reliability Study occurred in January, 1990 when a full set of variables tables was created. These tables were organized according to the following:

- Selected Variables: Described variables thought to be critical to an understanding of intravenous drug use and AIDS
- All Variables: Referred to all items on the **AIA** questionnaire
- Derived Variables: Described those variables constructed from AIA items that summarize a concept (e.g., number of persons with whom the IVDU shares needles).

NOVA statisticians included an appendix with the tables that clarified the kappa statistic and demonstrated its sensitivity to extreme distributions.

In February, 1990, minor revisions were made to the ***Reliability Report. An*** appendix was added that explained the kappa statistic, its interpretations, and its shortcomings. An executive summary, which addressed concerns about the general "vulnerability" of items contain4 in Section C of the AIA, was added. Techniques for handling these variables were suggested. The ***Reliability Report was*** distributed to the sites in March, 1990.

Process Evaluation

In August, 1990, the NDC&E Center submitted its chapters one and three of the ***Process Report*** on the National AIDS Demonstration Research Project to the NIDA Project Officer. Supplemented by extensive tables and appendixes, this report contained an overview of the creation of the Project and a detailed update of NDC&E accomplishments.

Chapter two of the Process Report, to be written at a later date, was to contain individual process descriptions from the original NADR grantees and the ATOM contractors. To assist grantees and contractors in preparing these documents, the NDC&E Center prepared and submitted to NIDA for review a process description/evaluation questionnaire guide.

Summary-Year 3

During Year 3, NOVA further streamlined the data entry process and enhanced the quality control of data being uploaded to the PCC database. The First Annual NADR National Meeting was held, and the Second Annual NADR National Meeting planned for enhancing and encouraging information exchange among all persons involved with the NADR Project. ***Network, the*** newsletter of the NADR Project, continued to be published and increased its circulation to some 1,200. NOVA's statisticians and analysts prepared reports and analyses for grantees and NIDA staff members. Year 3 saw the NADR database grow to more than 9,100 AIAs from the five grantees. AFA's numbered approximately 5,200, and HIV data were collected on 6,800 participants.

Summary

As the NDC&E contractor for the first five NADR grantees, NOVA was responsible for coordinating the collection of data, providing technical assistance to the grantees, and evaluating the effectiveness of the programs in bringing about positive behavior changes in the population they were studying. NOVA worked systematically to assist the grantees and help make the NADR Project a success.

NOVA's accomplishments on this contract were numerous. In the role of NDC&E contractor, NOVA took the lead in assisting NIDA and the grantees in the design of comprehensive data collection instruments, preparing and implementing effective data collection and data processing software and procedures, analyzing national data, and fostering exchange of information among the grantees.

NOVA designed, in collaboration with the grantees, the AIA, AFA, and other standardized national data collection instruments used by the programs. Technical assistance was provided to the sites in the form of training and manuals on administering the questionnaires and obtaining demographic data for follow-up purposes.

An organized, systematic method for getting the data from the questionnaires to the national database at the PCC was developed by NOVA. This entailed writing computer software programs for entering the data, checking the quality of the data, and transferring the data from microcomputers to the PCC mainframe. NOVA also wrote documentation for all these computer programs.

Many analyses of local research program and national data Were performed by NOVA's statisticians. These staff also prepared reports for NIDA and program personnel.

Information exchange was facilitated by NOVA through the *Network* newsletter and *Research Findings.* NOVA also assisted NIDA's Project Officers in preparing correspondence, reports, and other publications to keep Project personnel informed about findings from the data and other important Project activities. NOVA planned and hosted, with NIDA, national meetings for the exchange of information among project personnel.

Program effectiveness was evaluated only in a descriptive manner. Analysis of national AIA and AFA aggregate data does show positive changes in behavior, including reduced frequency of injecting drugs, increased use of new needles or using bleach to clean works prior to injecting, reduced numbers of different sexual partners, and a small increase in use of condoms. Evaluation of program efficacy was not possible under this contract. A decision was made at NIDA not to collect detailed intervention protocols or intervention participation data at the national database level. Because of the extensive variety in interventions, it was decided that a national evaluation was not meaningful.

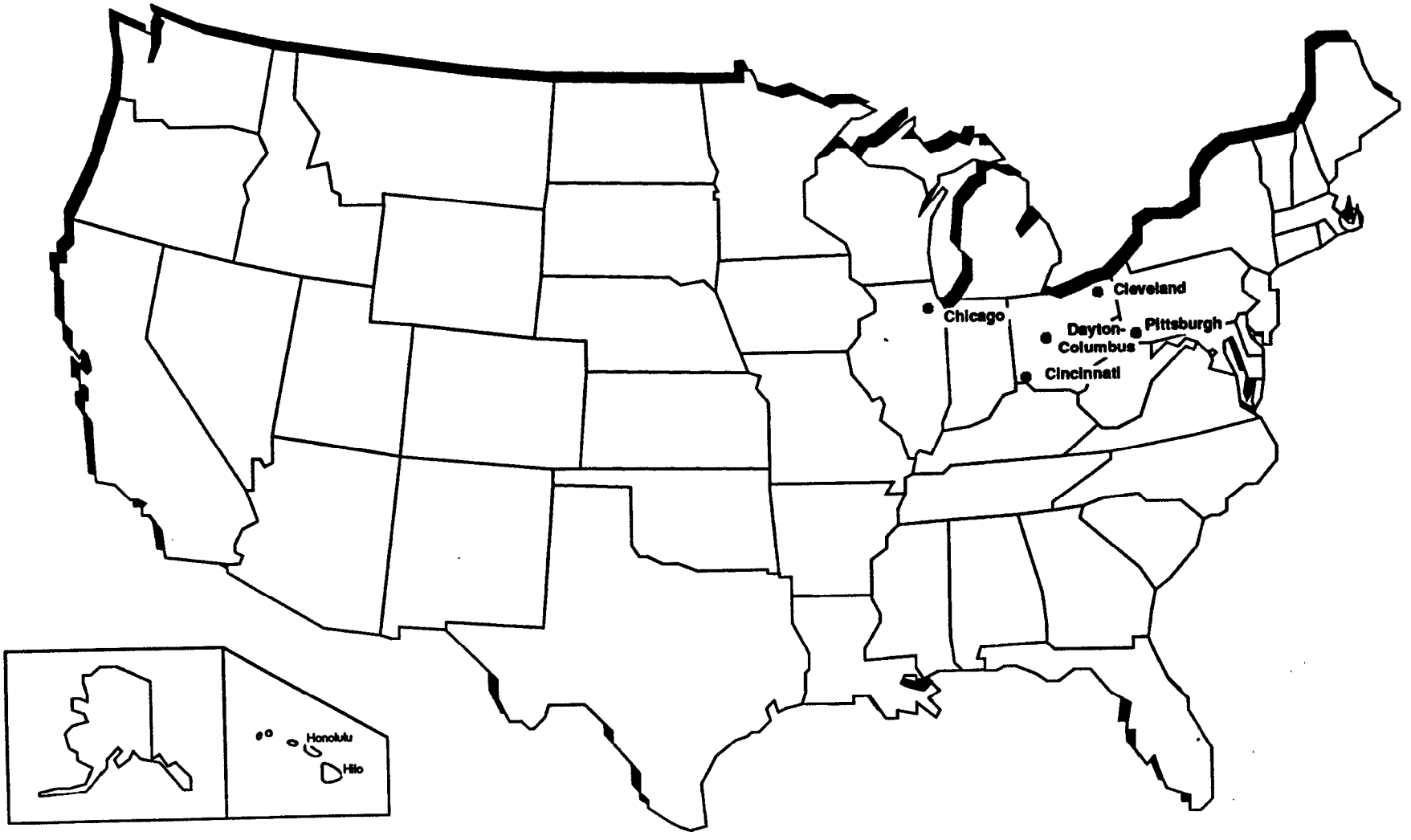
The project was successfully concluded on September 29, 1990.

Appendixes

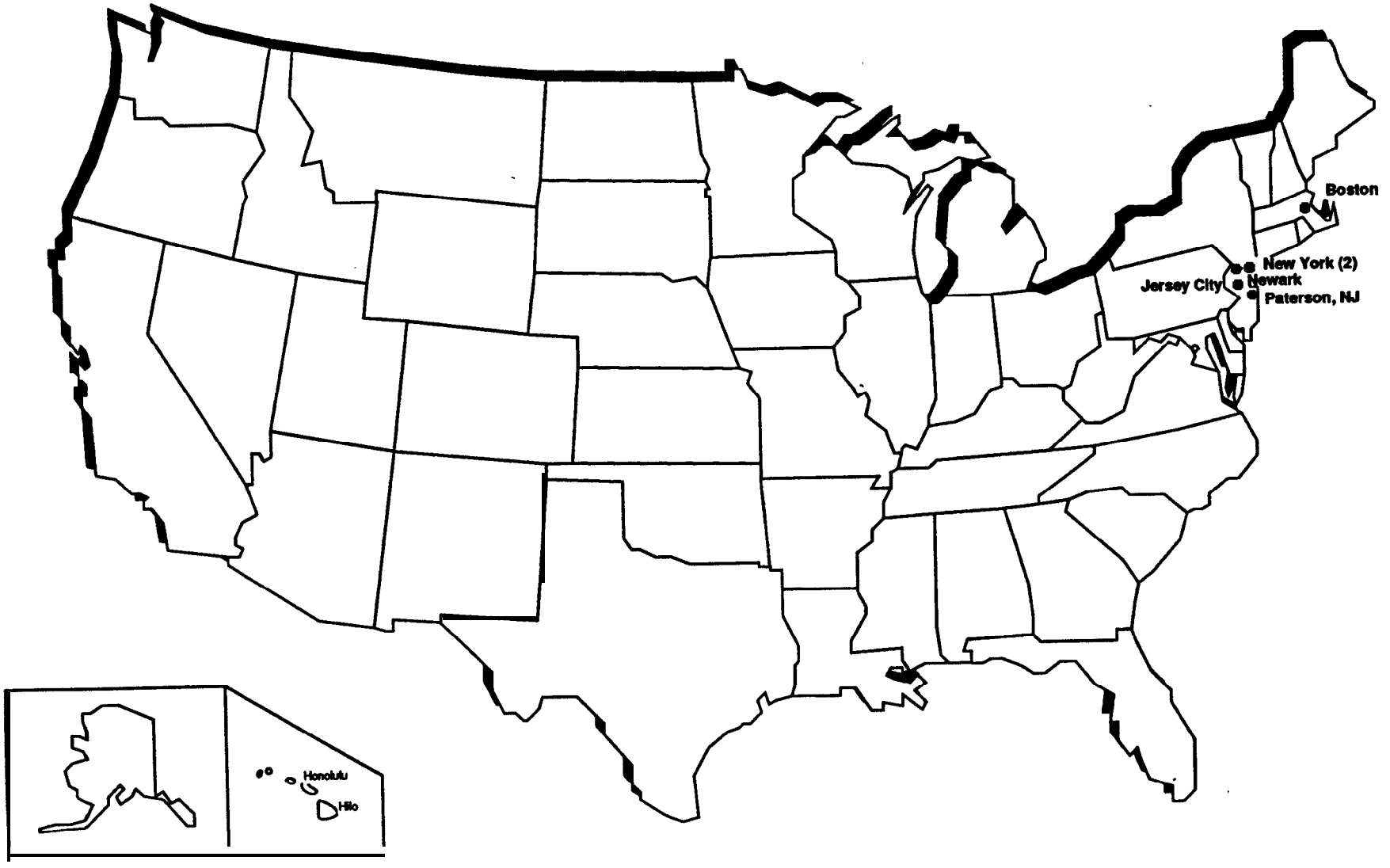
Appendix A. Commonly Used Acronyms

AFA	AIDS Follow-up Assessment
AIA	AIDS Initial Assessment
AIDS	Acquired Immune Deficiency Syndrome
ATOM	AIDS Targeted Outreach Models
CRB	Community Research Branch
DCRT	Division of Cancer Research and Treatment
DE	Data Entry
HIV	Human Immunodeficiency Virus
IVDU	Intravenous Drug User
MIS	Management Information System
NADR	National AIDS Demonstration Research
NDC&E	National Data Collection and Evaluation
NIDA	National Institute on Drug Abuse
NIH	National Institutes of Health
OMB	Office of Management and Budget
PCC	Parklawn Computer Center
PI	Principal Investigator
QC	Quality Control
RCA	Resource Center on AIDS
SAC	Senior Advisory Committee
SP	Sexual Partner
STD	Sexually Transmitted Disease
TOT	Training of Trainers

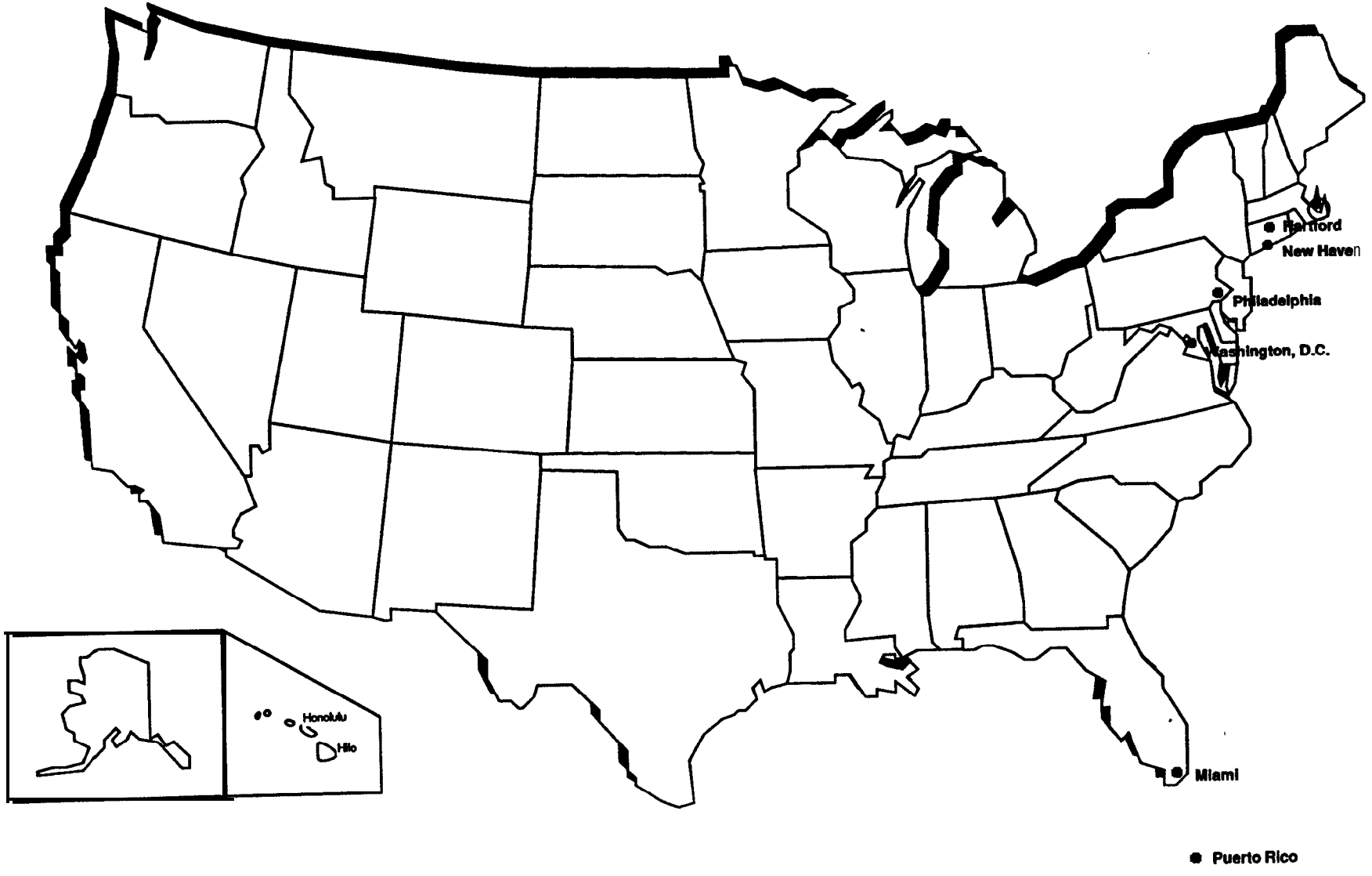
Appendix B. Regional Research Groups
Midwestern



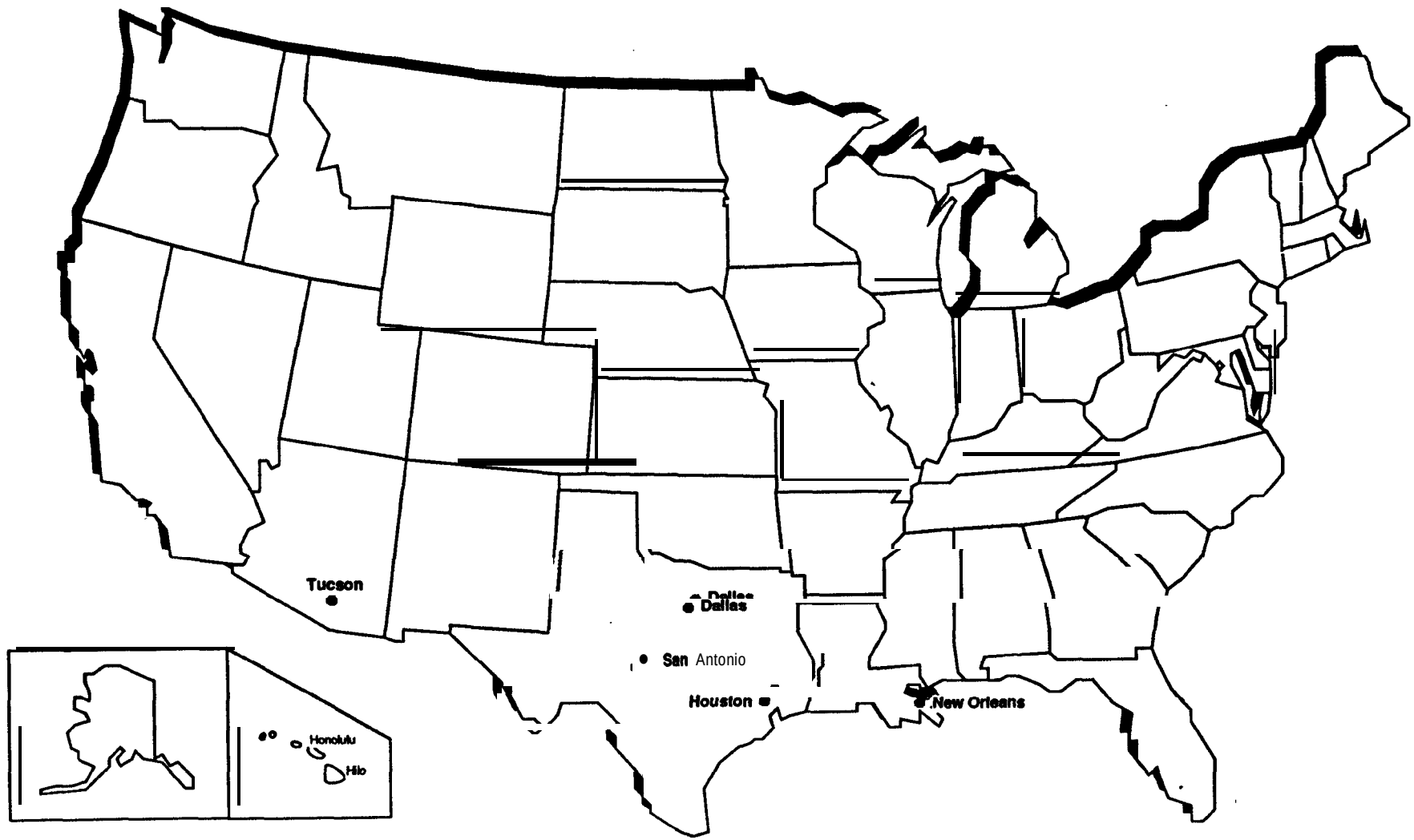
Appendix B (Continued). Regional Research Groups
Northeastern



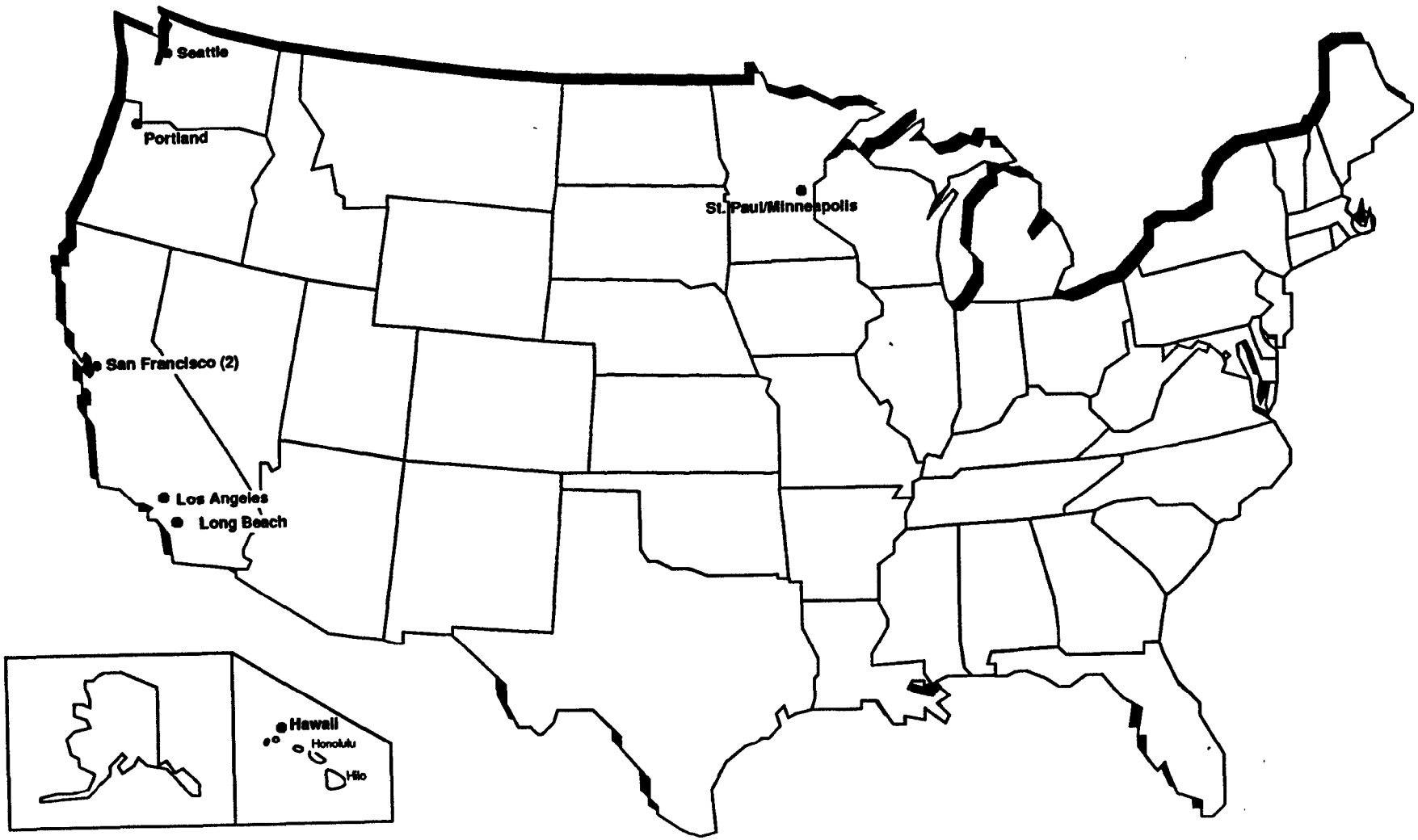
Appendix B (Continued). Regional Research Groups
Seaboard



Appendix B (Continued). Regional Research Groups
Southwestern



Appendix 6. (Continued). Regional Research Groups
Western



Appendix C. List of Deliverables

Monthly Progress Report—NOVA submitted progress reports to NIDA on or before the 10th working day of each month. These reports detailed NOVA's accomplishments as the NDC&E contractor and stated NOVA's goals and objectives for the upcoming month.

Quarterly Brief+-Formal and informal meetings to keep NIDA apprised of progress on the NADR Project.

Interim/Annual Report—Produced every six months as a detailed overview of accomplishments of the NDC&E contractor.

Program Orientation Book-Detailed description of the NADR program and all its instruments (e.g., AIA, AFA). Mailed to all programs in January of 1989.

Proceeding: Regional Research Workshops. February–April 1989—Summary of the Regional Research Workshop findings. Mailed to programs in June 1989.

NIDA/Grantee Publication Policy and Plan—Guidelines for publication and other use of NADR data. Prepared in November 1987.

Research Overview—Brief description of the Project, its goals, target populations, and methodologies.

Evaluation Plan Overview-A detailed evaluation plan, covering the evaluation goals and objectives, levels of evaluation, evaluation strategies, methods, site visits, and data analysis.

AIDS Initial Assessment (AIA)—The instrument for collecting baseline information on Project participants.

AIDS Follow-up Assessment (AFA)—The data collection instrument for assessing behavior change in Project participants.

Contact Screener Form—Form used to collect basic demographic data to determine Project eligibility and used for follow-up purposes.

Data Entry Procedurees Manal—Contains data dictionary, editing rules, and record specifications. This manual was used to assist programs in entering data using SPSS and the NOVA-developed DE program.

AIA Interview/Supervisor Man&.-Guidelines for conducting interviews and administering the AIA.

AFA Interviewer/Supervisor Manual—Guidelines for conducting interviews and administering the AFA.

NADR RCA Database User's M-Explanation of the NADR RCA and how to use the computerized database system.

Network—NADR newsletter published 4-6 times per year gamered from the national database and human interest stories about NADR Project personnel and events.

~-Monthly listings of papers published by NADR Project personnel.

Research Questions for Process Description and Evaluation—Detailed questionnaire sent to all programs for gathering process information.

Self Reported Program Descriptions—Summary tables containing descriptions of the grant programs by subject.

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EXECUTIVE SUMMARY

AIDS COMMUNITY EVALUATION PROJECT

Contracts: ADM-87-251 271-87-8213

Purpose: This contract was designed to coordinate the collection of data, provide technical assistance to grantees, and evaluate the effectiveness of the NADR programs. The NADR projects were initiated to test and evaluate different models and interventions designed to reduce the behaviors and practices that placed intravenous drug users who were not in treatment and their sexual partners at high risk of HIV infection.

Methods: Comprehensive national data collection instruments were developed and used to standardize data collection procedures. Computer software programs were written to standardize input procedures during transfer of data to the mainframe computer for statistical analysis. Frequency distributions were generated and statistical (regressions, bivariates, and chi-squares) analyses of outcome data were performed.

Findinas: This data management system was capable of storing and analyzing large amounts of data collected from around the country. Analysis of the national aggregate data shows positive changes in behavior of the target populations. These changes included reduced frequency of injecting drugs, increased use of new needles or use of bleach to clean the works prior to injection, reduced number of sexual partners, and a small increase in the use of condoms.

Recommendations: This successful data collection and management system can handle large amounts of data and should be considered for use in the collection of national datasets. Furthermore, additional outreach programs should be undertaken using the more effective approaches identified by this analysis.